THE ESSENTIAL JAPANESE GREEN LIVING HANDBOOK FOR KIDS

OUR EARTH OUR HOME

KAI SAWYER AND AZUSA FUKUOKA ILLUSTRATIONS BY WAKANA KAWAMURA

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THE ESSENTIAL JAPANESE GREEN LIVING HANDBOOK FOR KIDS

Kai Sawyer and Azusa Fukuoka

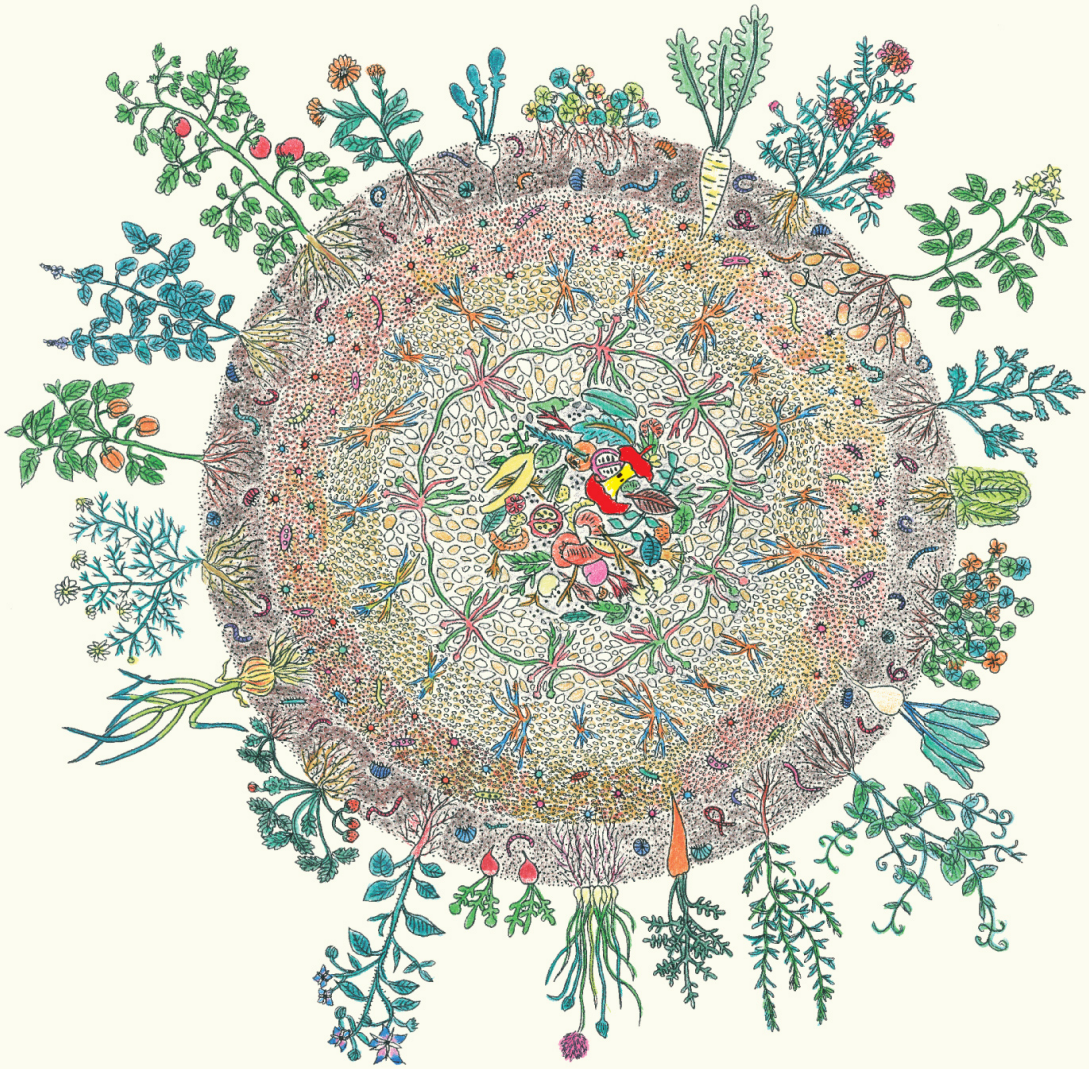
Translated from the Japanese by Cynthia Su

Illustrations by Wakana Kawamura

PLUM BLOSSOM BOOKS

BERKELEY, CALIFORNIA

WHAT IS PERMACULTURE?



PERMACULTURE IS ABOUT TRYING TO LIVE IN A WAY THAT MAKES LIVING ON EARTH FUN. IT IS A COLLECTION OF WISDOM FROM HOW INDIGENOUS PEOPLE, FARMERS, ANIMALS, AND PLANTS HAVE LIVED IN THIS WORLD.

1. CARE FOR THE EARTH

2. CARE FOR PEOPLE (INCLUDING YOURSELF!)

3. SHARING AND GIVING

HOW CAN WE VALUE THESE THREE ETHICS?

Who is Kai?

kai is a boy on a permaculture adventure to make living on earth fun and resilient! he makes everything himself, gets people to join in his adventures, and has fun with nature. his afro hair is the talk of the town.

Dear Fellow Earth Dweller:

Hello! This book was written with my buddies so that we can gather more people to have an exciting adventure on Earth. We have more power than we imagine to create whatever we want. Don't forget: we are part of this Earth! But many of us are unaware of it. This book was written to wake you up to the possibilities and remind you of your potential. The Earth is our precious home. She is the only planet that gives us what we need to be alive. So we want to treat her with care, and get to know her better. We are alive because of her!

5 THINGS KAI WANTS TO SHARE WITH YOU IN THIS BOOK

1. BE YOURSELF.

2. YOU HAVE EVERYTHING YOU NEED.

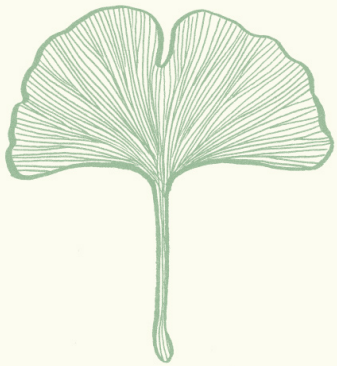
3. YOU CAN CREATE WHATEVER YOU WANT.

4. WE ARE ALL CONNECTED.

5. HAVE FUN!

もくじ

みんなの
ちきゅうカタログ



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Dear Zachary

This book is yours and we hope you enjoy reading it. May it bring joy, love, and understanding into your life. By buying your eBooks directly from Parallax Press, you help us to continue to publish books and media that help bring about a more joyful, healthy, and compassionate society.

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WHERE DO YOU GET
YOUR FOOD?

EATING

食べる

食べることは
生きること

TO EAT IS TO LIVE

Let me tell you a story about an edible forest on a small island somewhere on
Earth. Strawberries and melons are scattered like a carpet all over the forest
ground. After passing through a tunnel of bananas and peaches hanging
from the top, hundreds of mango trees greet you with a buffet of mangoes.
You know they are soft and ready to be eaten when they fall from the tree.
The fruits are like sweet jam. Whoever visits the Edible Forest will always have
plenty to eat!

Everyone on Earth loves to eat, like the birds, humans, and bugs in the soil.
Food naturally attracts living creatures. If you get excited when you see food,
it means you are alive! Look around you. There is food everywhere. Can you
find somewhere like the Edible Forest near you?

If not, let's grow an Edible Forest! It doesn't have to be a big forest. You can start with a
small edible garden. A forest, no matter the size, has to start from a

食べもの畑をつくろう

GROW A GARDEN

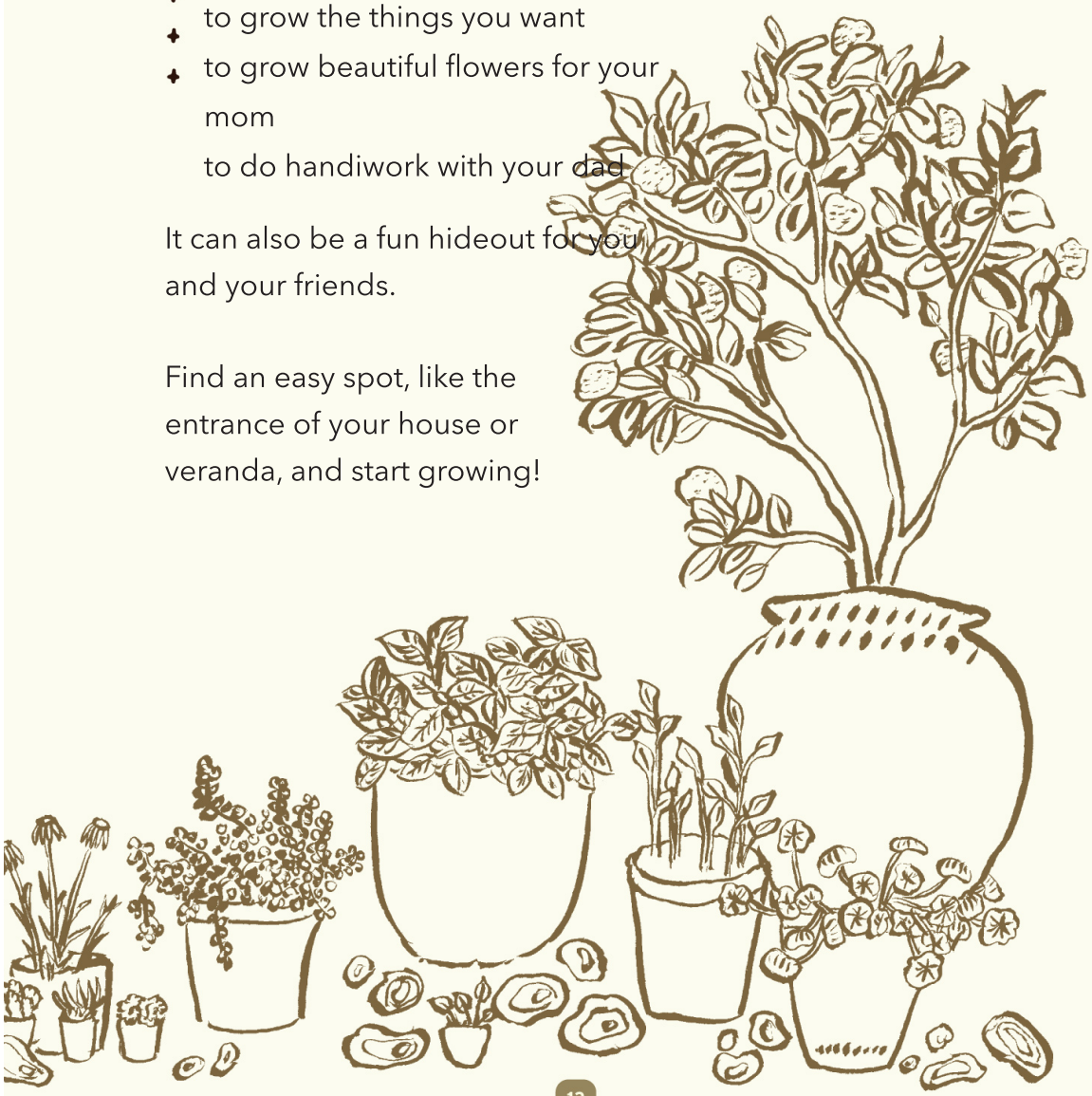
When you're hungry, how do you get food? Do you buy it at the
supermarket? Let's imagine this: You have a garden of colorful vegetables and fruits you grew yourself. Bees come to feed on the
swaying flowers, and little birds come here to play. You can make
such a place. You can buy food at the store, find food in nature, or
grow your own food. So, why not try doing all of those?

A garden can be a place . . .

- to grow the things you want
- to grow beautiful flowers for your mom
- to do handiwork with your dad

It can also be a fun hideout for you and your friends.

Find an easy spot, like the entrance of your house or veranda, and start growing!



THE NINE LAYERS OF THE EDIBLE FOREST GARDEN

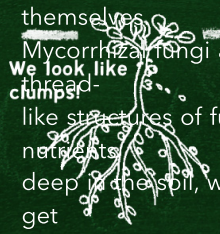
A design that models our edible garden on the principles of a forest

If you observe a forest garden closely, you will see that it is made up of nine layers of plant life. There are tall trees and low trees. Grasses cover the ground (ground cover), and root vegetables grow in the earth. And don't forget the tiny microorganisms. Each of them, with their unique character and strengths, work to [illegible] one another. If you know how to arrange the nine layers well, healthy plants will naturally grow, just like the forest, without having to use your hands.

Do you know about mycorrhizal fungi and rhizobia bacteria?

Mycorrhizal fungi live in the roots of many plants. Rhizobia bacteria live in the roots of legumes. Both microorganisms play a very important role in helping the plants to grow. Although there are plenty of plant nutrients like phosphorus and nitrogen in the air, plants are not able to absorb the nutrients by themselves.

Mycorrhizal fungi are mycelium (the mass of branched, thread-like structures of fungi) that help plant roots to reach nutrients deep in the soil, while the rhizobia (in the form of a clump) get nutrients in the air for the plant.



Let's get out on the streets to explore!

Let's look for rhizobia bacteria!

Don't be surprised that rhizobia bacteria, which live in plant roots, may be hiding in the plants nearby. Will you be able to find them in your neighborhood?

1. **TALL TREES**
Trees that are tall and get plenty of light: chestnut trees, walnuts, etc.

2. **MIDSIZE TREES**
Trees around 10 to 20 feet tall: apple trees, persimmons, etc.

3. **SHRUBS**
Trees shorter than 10 feet tall: blueberry, rosemary, etc.

4. **HERBACEOUS PLANTS**
Nonwoody plants: tomatoes, cabbages, etc.

5. **GROUND COVER**
Plants that cover the ground: mint, pumpkin, etc.

6. **ROOT VEGETABLES**
Plants with edible roots that spread: potatoes, carrots, etc.

7. **VINES**
Plants that need support and entwine and climb: grapes, kiwis, etc.

8. **AQUATIC PLANTS**
Plants that live underwater: lotus root, euglena

9. **FUNGI**
Organisms that grow on decayed wood and in the shade: shiitake mushrooms, koji *(Aspergillus oryzae),* etc.

What kind of plants live together in the park? Let's go have a look!
Let's look carefully!
1
2
3
4
5
6
7
8
9

A BIG IDEA FROM KAI

ACTIVITY

LET'S MAKE AN EDIBLE GARDEN AT HOME!

With your creativity, any place can be turned into a garden.

WHAT YOU'LL NEED

materials that can be used for plant pots

box cutter

soil

your hands (or a trowel)

seeds and seedlings

1. **Design your garden:** Draw a map of the garden you want. What do you want to plant? Where do you plant them?
2. **Make plant pots:** Make original pots with materials you can find.
3. **Start planting:** Plants have seasons they like and don't like. When you plant them together, they may become friends with their neighbors, or they may start to fight. When is a good time to plant? What can you plant together?
4. **Make observations:** How much did a plant grow in a week? What's the shape of its leaf? What happens when you don't water it?
5. **Make your own fertilizer:** Food scraps can become good materials for healthy soil.
6. **Harvest your garden:** Eat your fresh picks! Why do things you grow taste so good?

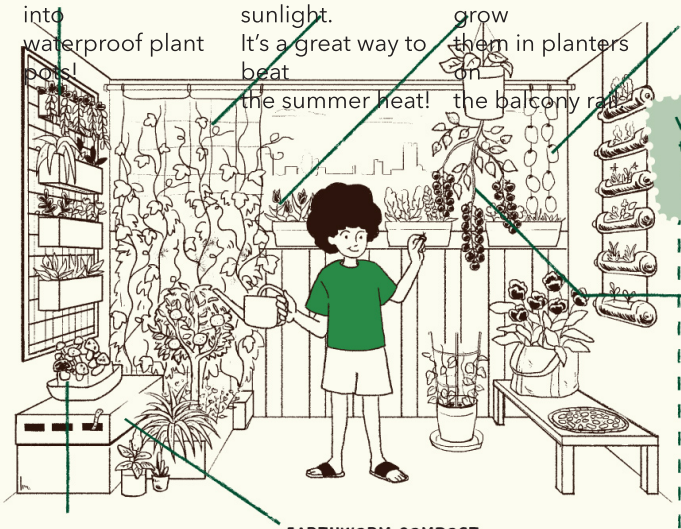
EDIBLE GARDEN ON A BALCONY

VERTICAL GARDENING
Make plastic bottles and milk cartons into waterproof plant pots!

GREEN CURTAIN
It cools the room by blocking out sunlight. It's a great way to beat the summer heat!

RAILING PLANTERS
Plants get to bathe in the sun if you grow them in planters on the balcony rail.

DRIED VEGETABLES AND FRUITS
Make vegetable chips and dried fruits by sun-drying vegetables and fruits. They are sweet and packed with nutrients.



Wow! Did you know tomatoes can grow out of pots hanging in the air?

GROW MUSHROOMS
Place a log inoculated with mushroom spores, or make a mushroom bed in a shady and cool place to grow mushrooms.

EARTHWORM COMPOST
Earthworms eat food and paper scraps, and turn them into fertilizer for your garden. You can make a compost simply by reusing a plastic container.

GROWING UPSIDE-DOWN TOMATOES
Bugs are less likely to come, and it doesn't need much space. You can turn plastic bottles into tomato pots by cutting off the bottom.

THINGS TO TURN INTO PLANT POTS AROUND YOU

EGG SHELLS

OLD SNEAKERS

DAD'S TREASURED GUITAR!

Imagine having edible gardens on the streets you walk on. Let's see if you can spot a place to make a garden!

A BIG IDEA FROM KAI

ACTIVITY

FIND COMPANION PLANTS!

Plants that get along well, when planted together, complement each other by protecting themselves from diseases and pests in order to grow well. They are called "companion plants."

For instance, if you harvest tomatoes and basil together, you can make an exceptionally delicious pairing for pizza and pasta. Try finding some companion planting combinations!

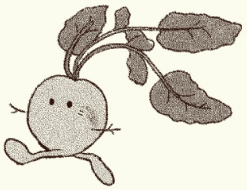
1. Basil loves half-shady places, and the tall tomato plant provides just the right shade for it.
2. The basil and the tomato plant are compatible because basil needs a lot of water, while the tomato needs less water to produce sweet fruits.
3. The scent of basil repels insects.
4. Convert an unused handbag or a sturdy bag into a plant pot!

WHAT ARE COMPANION PLANTS?

Plant combinations that have a beneficial influence on each other, when planted together, are called "companion plants." They can protect other plants from diseases and insect damage, promote growth, and improve the flavor of the plants. We suggest growing these plants in your garden or in planters so that you don't have to use agrochemicals. Just leave it to the power of nature. You can grow plants from different families to make the most of their unique qualities. And grow plants of different heights so that they don't fight with one another for sunlight. Also, consider the growing speed of plants to make full use of your garden space. Figuring out all these plant combinations is one of the pleasures of gardening.

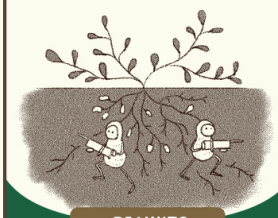
COMPANION PLANTS CHART

Let's study some fun facts about popular companion plants! Amplify a plant's special features by growing it with its companion plant.



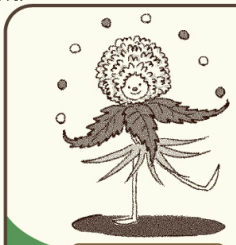
RADISH

FAMILY: Brassicaceae
UNIQUE QUALITY: Protects the Asteraceae family from insects!
PERSONALITY: Grows quickly and robustly. It is also known as the "twenty-day radish" in Japan, as it can be harvested in just a month.



PEANUTS

FAMILY: Fabaceae
UNIQUE QUALITY: With the help of rhizobia bacteria, it pumps nutrients into the soil!
PERSONALITY: Mysterious. It hides and grows in the soil.



MARIGOLD

FAMILY: Asteraceae
UNIQUE QUALITY: Eliminates roundworms (nematodes) that attack plant roots!
PERSONALITY: Popular. Gets along well with any plant.

BORAGE

FAMILY: Boraginaceae
UNIQUE QUALITY: Casts a spell that makes strawberries tastier!
PERSONALITY: Helpful pollinator. It is handsome and friendly with bees and horseflies. It loves strawberries.

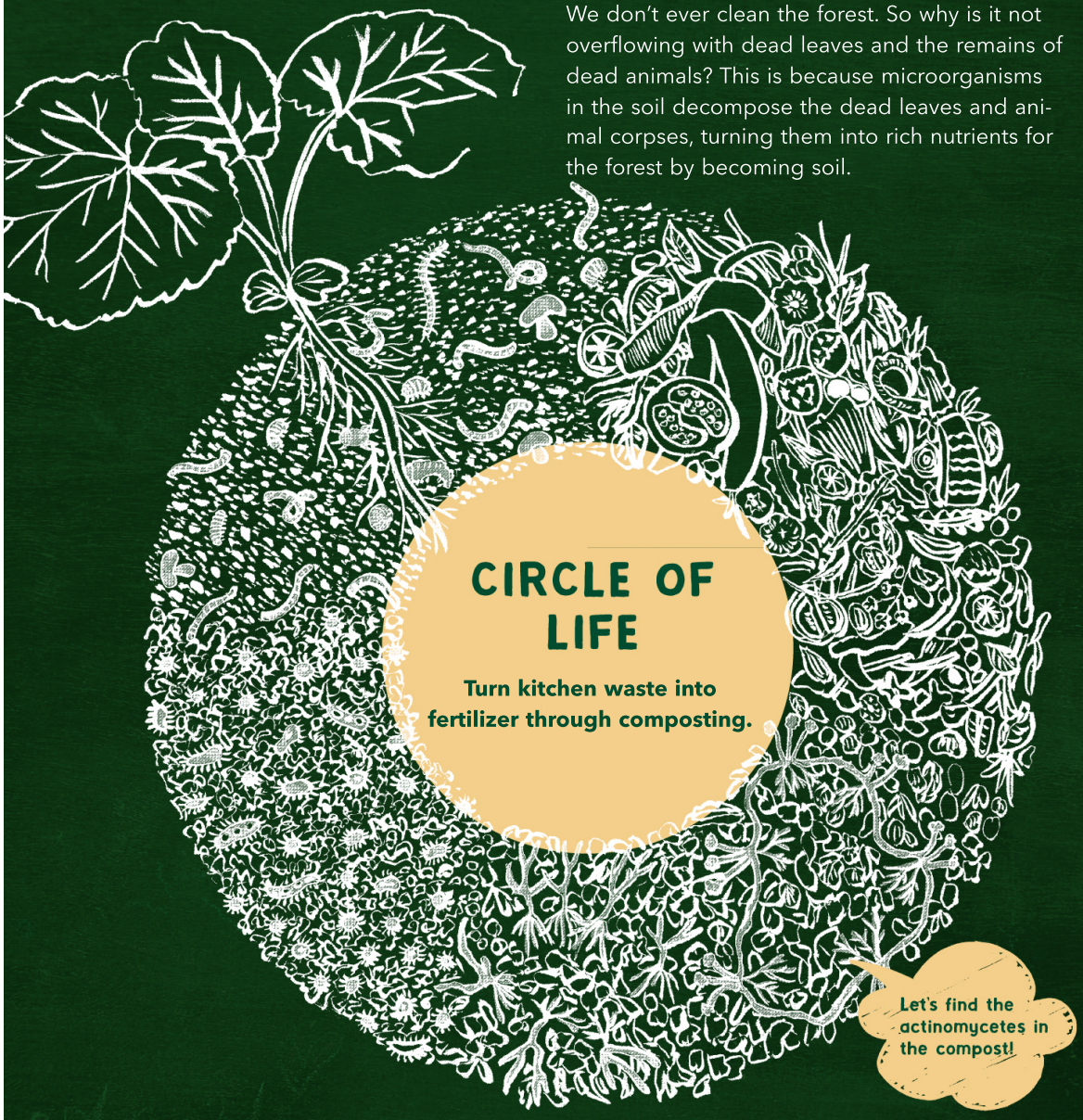
LEAF LETTUCE

FAMILY: Asteraceae
UNIQUE QUALITY: Protects the Brassicaceae family from insects!
PERSONALITY: Easygoing; enjoys sunbathing.

STRAWBERRY

FAMILY: Rosaceae
UNIQUE QUALITY: Seduces others with its charm and sweet scent!
PERSONALITY: Princess-like; wants to be protected.

We don't ever clean the forest. So why is it not overflowing with dead leaves and the remains of dead animals? This is because microorganisms in the soil decompose the dead leaves and animal corpses, turning them into rich nutrients for the forest by becoming soil.

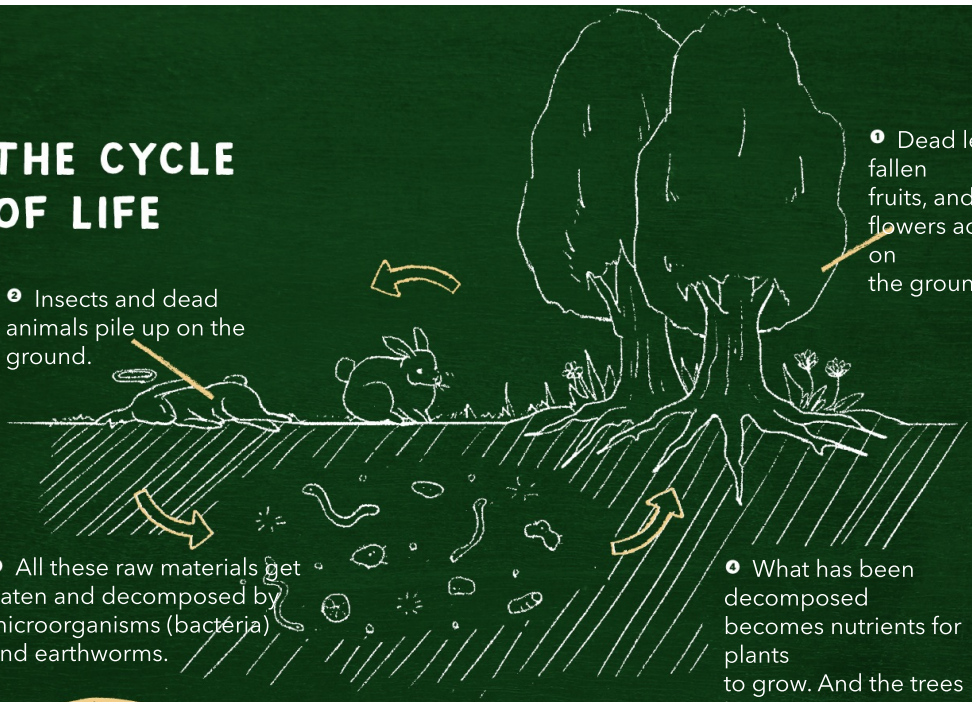


CIRCLE OF LIFE

Turn kitchen waste into fertilizer through composting.

Composting is a natural process of turning raw materials into soil. We can use the nutrient-rich fertilizer, transformed from food garbage produced in our daily lives by earthworms and microorganisms, to grow plants, so that we
can eat them again. We are also a part of the ever-changing circle of life!

THE CYCLE OF LIFE



❶ Dead leaves, fallen fruits, and withered flowers accumulate on the ground.

❷ Insects and dead animals pile up on the ground.

❸ All these raw materials get eaten and decomposed by microorganisms (bacteria) and earthworms.

❹ What has been decomposed becomes nutrients for plants to grow. And the trees become healthy too.

OUR DAILY LIFE CYCLE

❶ Eat the vegetables we grow.

❷ Throw away the vegetable scraps.

❸ Put them in the compost (a bin filled with soil that is a home for microorganisms and earthworms).

❹ Decomposition occurs in the compost.

❺ Raw materials that turn into soil become liquid fertilizer and compost. They provide nutrients that help grow healthy vegetables.

Did you know that pee can be used as a fertilizer too?
What? Really?
Yes, but you should dilute it with 10 to 20 parts water and water away from the roots.
Whoa! We've got a giant sweet potato!
BIG

ARE YOU KIDDING ME? YOU CAN USE PEE AS A FERTILIZER?

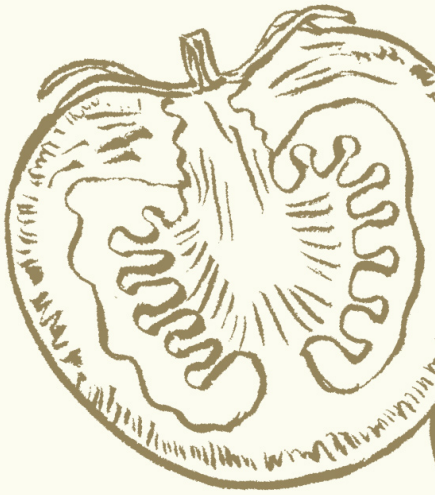
It is said that the pee of a healthy person is high in nitrogen, potassium, and phosphates. These nutrients are very nourishing for plants, which is what makes pee a good fertilizer. Citrus plants, such as the tangerine, especially love pee!

INVITE FRIENDS TO YOUR EDIBLE GARDEN

What else do you need to make your edible garden a more enjoyable space? If you can get your friends, parents, and teachers
to help you, you can grow more food together! How about having a
pizza party with the vegetables you grow?

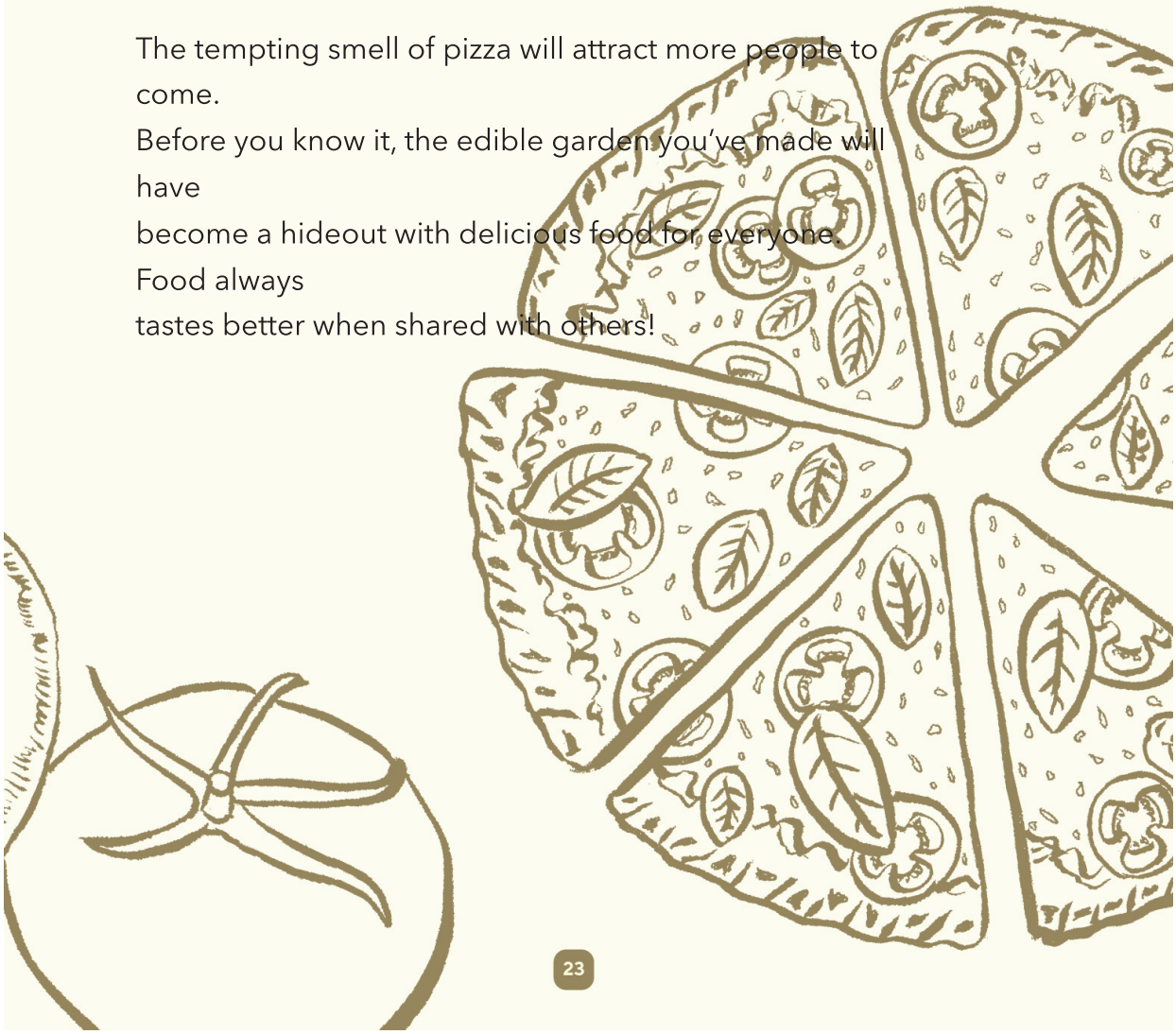
Invite people to bring ingredients you don't have. Or do a food-
themed scavenger hunt for what you need.

Get eggs from your neighbor's chickens, and honey from the bees.
You could probably also eat the edible weeds growing on the side
of a path.



Wait—don't you need an oven? Maybe you can build your own
earth oven! There is advice later on for how to make one. Once
you have all your ingredients and tools, you're ready to start a
pizza party!

The tempting smell of pizza will attract more people to come.
Before you know it, the edible garden you've made will have
become a hideout with delicious food for everyone.
Food always
tastes better when shared with others!



Welcome to Our Forest and Garden Classroom

Behind our school is a sprawling green forest. In our schoolyard, there's a garden of vegetables and fruits in an array of colors. A class called "Connection with Life" is taught at Aiwa Elementary School, located in Tama City in Tokyo. The rich forest, home to a diversity of trees, and the school's big edible garden that provides us with food are the study materials of our class. What we learn in th class—growing and eating food together, taking care of the chickens, and making observations in the forest—are related to what we learn in Science, Japanese, Math, Social Studies, and so on. We pay attention to what's around us; we touch them with our hands; we smell them; we listen to what's in our surroundings; and we enjoy eating what we grow. There are so many things we get to discover.

COMPOST
We add weeds and vegetable scraps fro our garden as well as egg shells to the compost And when it becom soil, we return it to the garden.

GRADE 1
LIFE ENVIRONMENT STUDIES
Guided by the second graders, the first graders get their first hands-on experience in the garden!

GRADE 2
LIFE ENVIRONMENT STUDIES—VEGETABLES AND SWEET POTATOES
Second graders plant seedlings and harvest the vegetables. They get to cook their harvest and have a veggie party!

GRADE 6
SOCIAL STUDIES, SCIENCE, HOME ECONOMICS—POTATOES
Sixth graders experiment with photosynthesis growing five types of potatoes. And they make five types of potato chips at the end of the experiment!

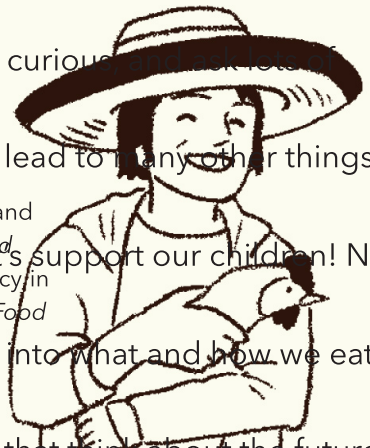
GRADE 5
SOCIAL STUDIES, SCIENCE, HOME ECONOMICS—RICE
Fifth graders learn how to grow rice plants from the local rice farmer. They do the planting, weeding, and harvesting with their hands!
CHICKEN COOP
The chickens that run around between the gardens are our treasured companions for permaculture gardens.
GRADE 3
SCIENCE, HOME ECONOMICS, JAPANESE, SOCIAL STUDIES
SOYBEANS
How many soybeans can you get out of one seed? The third graders grow and eat the versatile soybean that becomes edamame, miso, and tofu.
GRADE 4
SCIENCE, CYCLE OF LIFE
Caring for the chickens is part of learning about life cycles. Fourth graders compost the chicken manure and use the so
to grow vegetables!
GREEN PROJECT AT AIWA ELEMENTARY SCHOOL
Edible Education is part of a unique environmental educational program that connects forest gardening and food education. Students' experiences in the forest and the edible garden are brought into the classroom to support activities that develop independent learning, team learning, and problem-solving skills among children.
Photo: Yuko Toriabe

Lessons from the Garden

One day, we planted different types of radish seeds during our class.
Seeds that may turn out to be a long or short radish, thin or thick
radish, or even a red radish. Just like each radish has its own character,
no two things in nature are the same. The children learned the names
of all the different radishes. Now they chat about which radish they like
and how differently they taste. In this class, the vegetables teach us
how to appreciate each other's differences.

There are many interesting things to learn from growing and eating
food. I hope that everyone is a food lover and appreciates good
food! I want you to be inquisitive, curious and ask lots of questions
about this topic, because this will lead to many other things.

"To all parents and teachers, let's support our children! No matter
how busy we are, let's put care into what and how we eat. I hope
we'll have more and more adults that think about the future of our

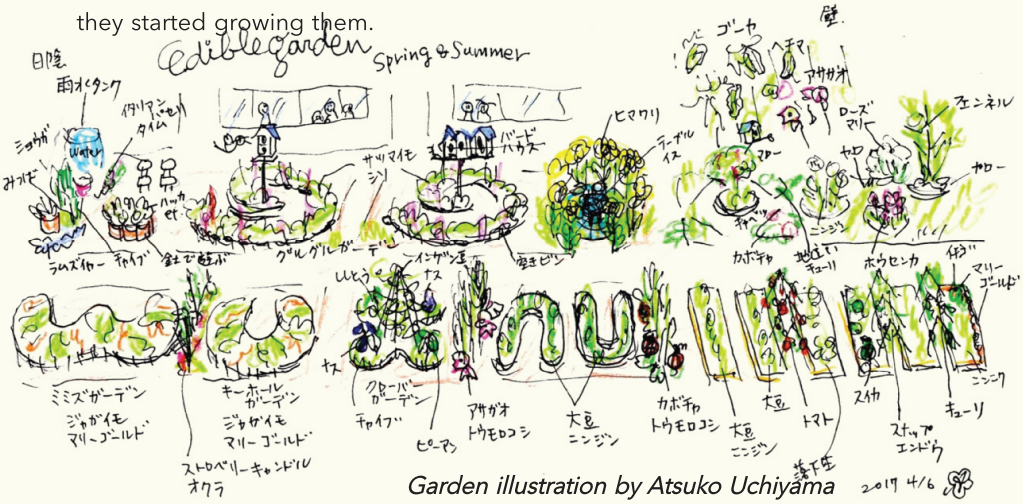


HIROKO HORIGUCHI
Director of Edible Schoolyard Japan and edible education researcher

Hiroko was also involved in the translation and editing of the original *The Edible Schoolyard* book, published by the Center for Ecoliteracy in Berkeley, California, and *The Art of Simple Food* by Alice Waters.

GROWING FOOD AND EATING TOGETHER

Decide with everyone who's involved what vegetables you want to grow together. There have been many students who now eat the vegetables they used to dislike after
they started growing them.



Garden illustration by Atsuko Uchiyama

These are the pizzas made with the wheat that we grew and milled. They are decorated with fresh vegetable toppings from the garden!

EDIBLE SCHOOLYARD

The Edible Schoolyard Project started at a public middle school in California. Edible education is a required curriculum that integrates hands-on educational experiences in the garden and kitchen that connect children to nature, food, and one another. Hiroko and her team, as the ambassadors of the Edible Schoolyard Project in Japan, are bringing edible education into Japanese schools. With the support of teachers, parents, and community members, they are creating a hub for an education curriculum that is connected to life by growing food and eating together. www.edibleschoolyard-japan.org/

CHICKENS
OUR GARDEN PARTNERS
Creating a garden where they play a vital role
Just like there are many insects and animals living in the forest,
to have a thriving and delicious garden it helps to have a variety
of creatures living there. They help us to grow vegetables and produce food too. For example, what kind of behavior do
chickens and bees have?
lay eggs
some for us to eat
scratch the ground while walking
helps to till the soil
eat insects
reduces pests that are overpopulating
poop
becomes fertilizer for the garden
28

HONEYBEES

fly around plants → helps with pollination

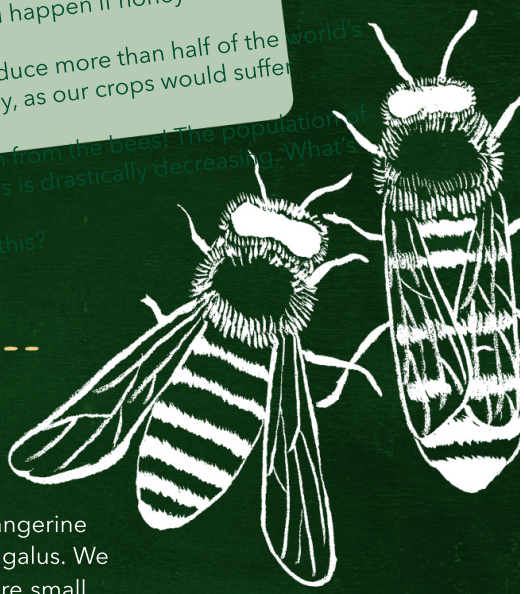
make hives with a waxy substance → produces beeswax, a main ingredient of candles and crayons

collect nectar from flowers → some honey for us

IF HONEYBEES DISAPPEAR FROM THE WORLD ...

What would happen if honeybees went extinct?

It would reduce more than half of the world's food supply, as our crops would suffer without pollination from the bees! The population of these bees is drastically decreasing. What's the cause of this?



TELL US, HONEYBEES!

Q **What are your favorite flowers?**

We like mountain blossoms from cherry and tangerine trees, and also wildflowers like clover and astragalus. We get so excited in spring. We love flowers that are small and easy to drink from. You might have the impression we're foodies, but taste isn't so important to us. We go for quantity rather than quality because our family is so big! When we find a field of sweet nectar, we do a figure-eight dance to let our friends know.

ACTIVITY

GIVING THANKS BEFORE EATING: *ITADAKIMASU!*

For life itself in front of us, and for the people who made this food.

Itadakimasu is a prayer we say before accepting the food (life) we eat. Take a breath before you start. Try saying *itadakimasu* from the bottom of your heart.

Thank you for the gifts of nature that created this food.

Thank you to all the farmers.

Thank you for the delicious food.

May the lives we put into our bodies get a chance to bloom as flowers again.

Let us chew well and enjoy our food.

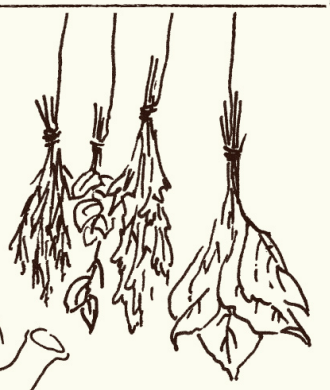
Prayer by: Kaori Tsuji

Try creating a prayer of your own.

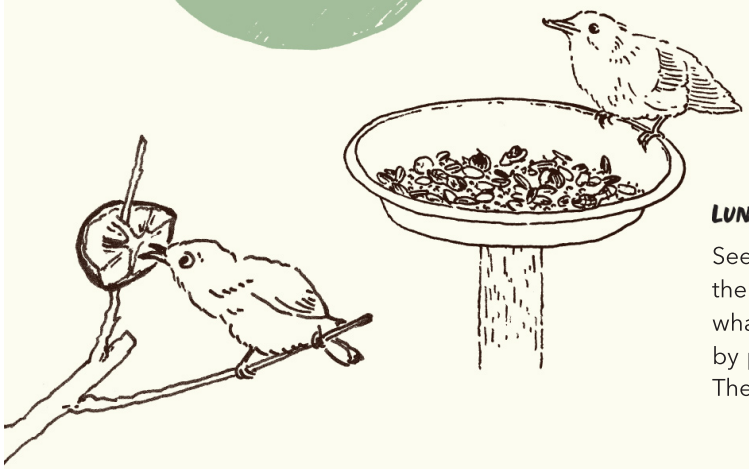
PATH-SIDE WEED RECIPES

WILD-CRAFTED HERBAL TEA

Harvest weeds like mugwort or horsetail. Dry them in the sun till they are crispy. Put the dried leaves in a pot, pour some hot water, and try the tea!



Go find different types of weeds for your tea! See if you notice the differences in their flavor and aroma.



LUNCH FOR THE BIRDS

Seeds, nuts, and fruits are food for the birds. If you're curious about what they love most, try finding out by placing the food individually. Then see which ones get eaten first!

?

EARTH'S TREASURE HUNT

Different butterfly larvae eat different types of plants. What does the *Colias erate* (eastern pale clouded yellow) larva like to eat?

What plant attaches something that ants love onto its seed to get them to transport it farther?

If you watch the ants closely, you may see them dropping the seed.

We can find things out by asking others or looking it up in a reference book. Hmm . . . but how do butterflies find the plants they want?

WHAT CAN I MAKE MYSELF?

CREATING

買う人からつくる人へ

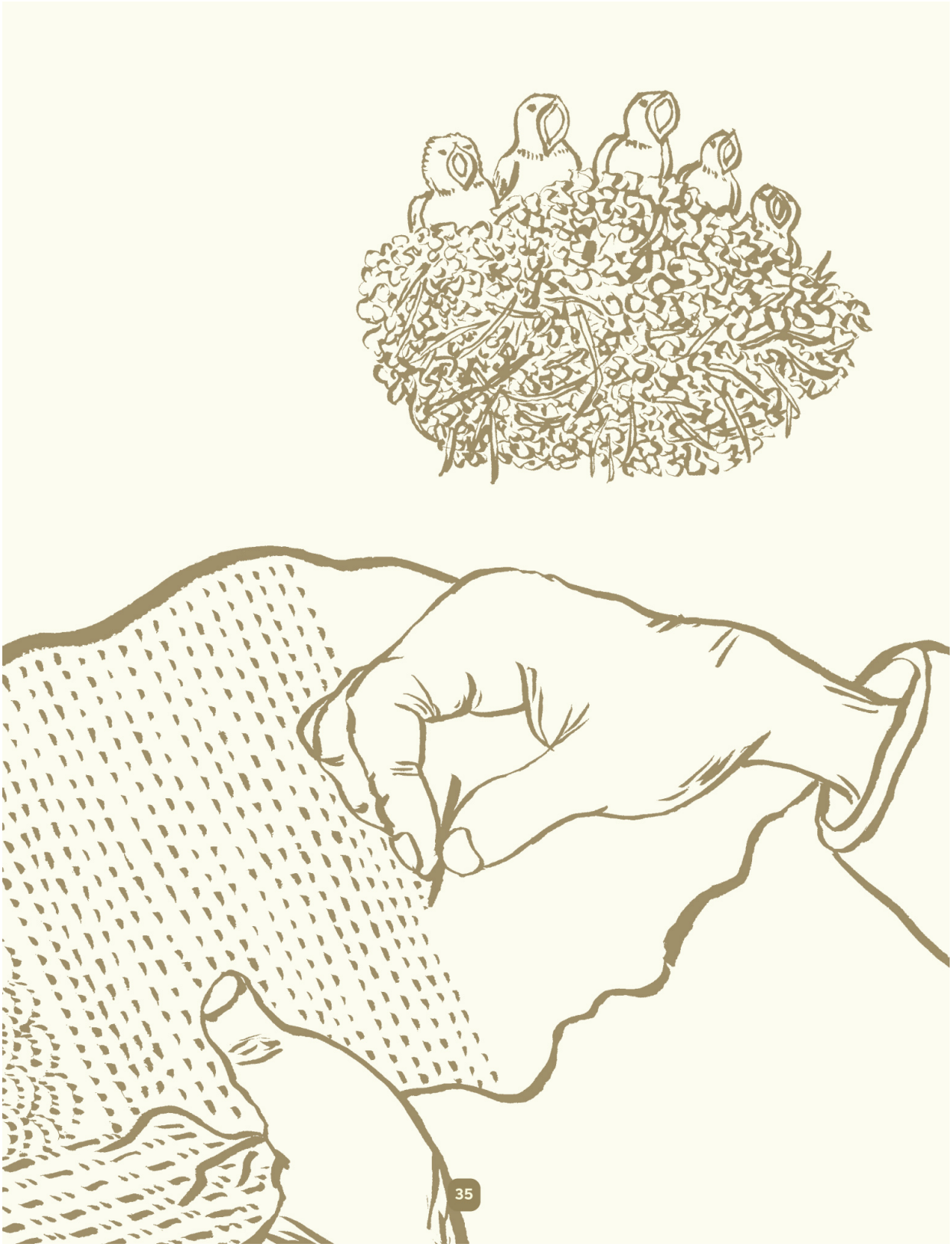
FROM CONSUMER TO CREATOR

In our society now, everything comes with a price. You can have almost anything you want if you pay for it. And what you can buy is always made by somebody somewhere. Like the clothes you're wearing now. You can wear them because someone has knitted or sewn them. That also goes for the food you eat every day, doesn't it?

How would your life be different if you could make your own clothes and food? You could have something special that is not available anywhere else. If you could live by making your own things, you could express your uniqueness!

There are so many amazing hidden talents in every one of you. Go on and start creating!

Like a bird that can make its own nest, a day will come when you can build your own house!



消費の本当のコスト

THE TRUE COST OF CONSUMPTION

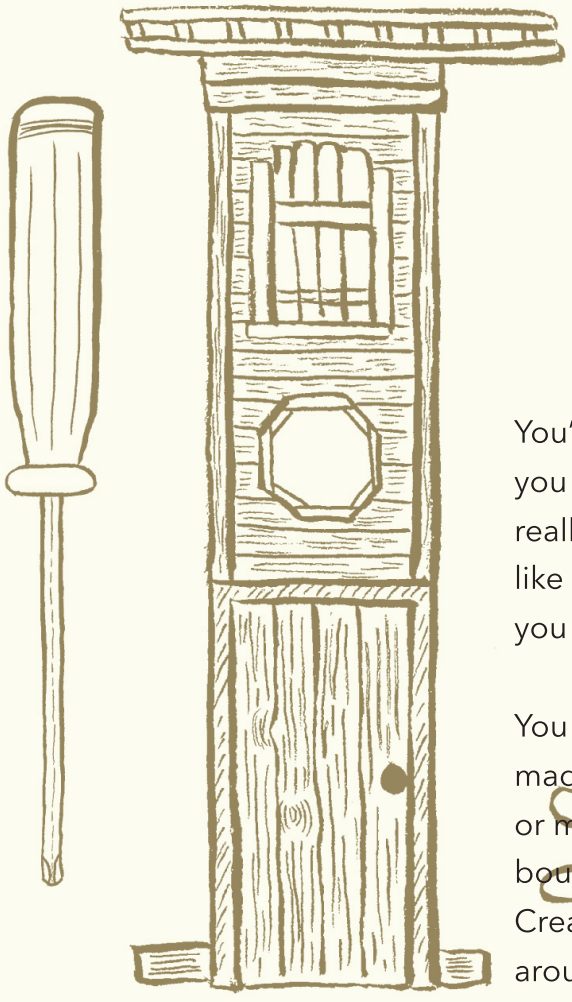
Do you have any idea who made the clothes you're wearing today?
Where were they made? Where do the clothes end up when they
get worn out and thrown away? When a bird's nest gets old, it
decomposes and returns to the soil. The soil in turn helps to grow
the branches and leaves to build a new nest. With the help of
nature, their form changes and they get constantly cycled.

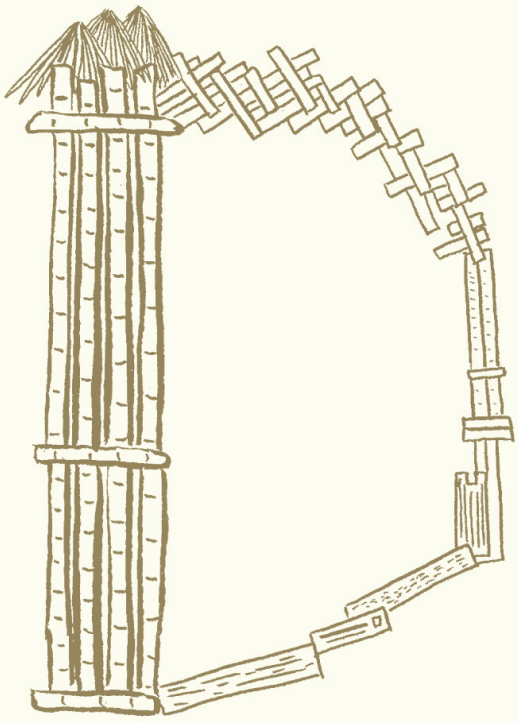
In contrast, in our consumer culture, we have lost the connection
to where things come from and where they go. Hidden from us,
there could be someone who is overworked from making the
things we use. Or people who are suffering from too much trash.

If that's the case, isn't it better to make our own things? Isn't it
more enjoyable to pass on something you don't need anymore?
Just like the story of the bird's nest, we can also create a

自分たちで
やろう！

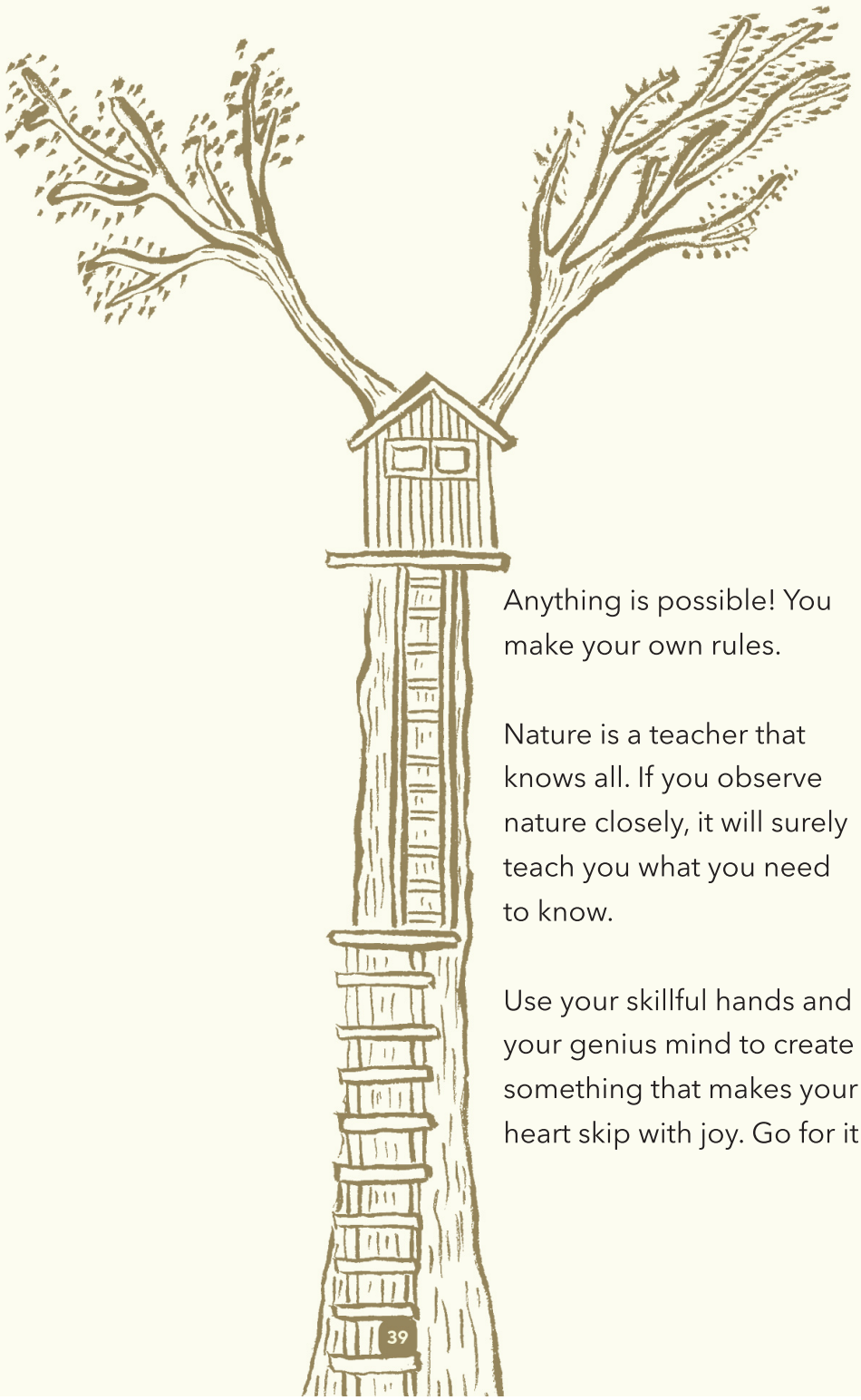
DO IT OURSELVES!





You're the only one who can make what you
really desire! What would our world be like if
you could create the world you want?

You can copy what someone else has made,
or make something from what you've bought.
Create something from the resources around you.



Anything is possible! You make your own rules.

Nature is a teacher that knows all. If you observe nature closely, it will surely teach you what you need to know.

Use your skillful hands and your genius mind to create something that makes your heart skip with joy. Go for it!

HOW TO MAKE MAGIC

Make fire with a branch

WHAT YOU'LL NEED

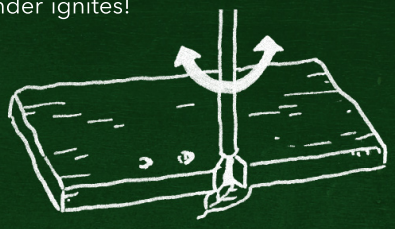
a dried tall goldenrod (Solidago altissima) branch, for the spindle

a Japanese cedar block, for the fireboard

dried grass, as tinder

When you spin the spindle back and forth in the fireboard, the two pieces of wood begin to break down into a pile of sawdust. The sawdust will begin
to smoke and turn into the "seed of fire," or embers.

Wrap the embers tightly with the tinder, and gently blow on them from the bottom. The tinder ignites!



LEARNING MAGIC

Making fire is like learning how to do magic. Hold a straight branch with your hands. Then spin it back and forth on the fireboard. Sawdust starts to pile up and create glowing red embers. Wrap the embers with a soft nest of dried leaves, take a deep breath, and blow on the tinder. A cloud of white smoke billows. When the tinder nest starts to get too hot, the embers ignite into a scarlet flame.

When I went into the mountains with just a knife on me, the flame was my best friend. It warmed me up on a freezing-cold day. It made undrinkable water and raw food safe for me to consume. On a starless dark-blue night filled with loneliness, a gentle orange light shines on my face as the flame lights up. That's why I continued to hone my fire-making practice. The fire was always there to help me. I wanted to be friends with fire.

After many years of practice, I gradually came to be aware of something. Fire-making is an ancient practice of our elders. It is a ritual of awakening the power of the sun that lives in the plants. Traversing the universe, taking billions of years to reach the earth, the energy of the sun is released with the use of your hands. What a miracle!

Fire-making is a first step in the journey of walking on your own feet in this world. Learning to work with fire is a journey into the magic of heat that penetrates the earth. When you have mastered making a fire with ease, with no doubt it will light up the flame of courage in you. Even if you don't have the spindle and fireboard, it will still illuminate your way of life, like a torch that never goes out. The time has come for you to embark on your journey. Light up the fire in you.

A BIG IDEA FROM KAI

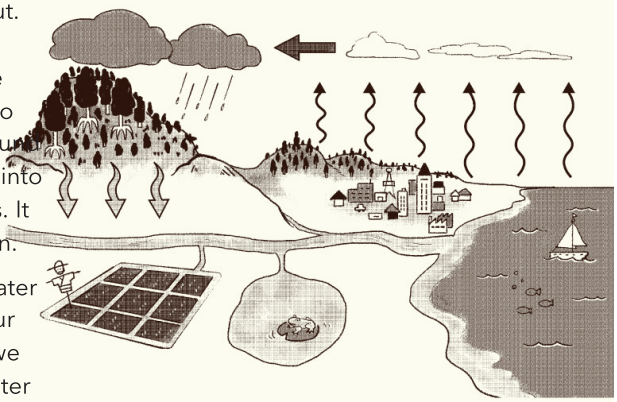
ACTIVITY

COLLECTING WATER

Getting water without turning on the tap

WHERE DOES OUR WATER COME FROM?

Water is something we cannot live without. Through the evaporation of water from the oceans, and evapotranspiration in the forests, water becomes clouds, and falls to the land as rain. Rain soaks into the ground and becomes groundwater, or collects into rivers, which then flows into the oceans. It evaporates and again comes down as rain.



Water is continuously changing forms. Water from the rivers and the ground gets to our home as tap water. But think about it: if we trace the water back to its origins–the water that surrounds the Earth as oceans, and that moves around in the plants and in our bodies–it is the rain that falls from the sky.

DIFFERENT WAYS TO COLLECT WATER

COLLECT WATER FROM PLANTS

Place a plastic bag over a leafy branch and seal it. If you set the plant in a sunny place, the water that evaporates from the leaves will collect at the bottom of the bag. This function is known as "transpiration".

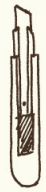
COLLECT MORNING DEW

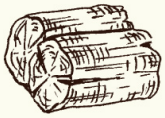
Get up early to gather morning dew if you find grassland. Wrap a towel or handkerchief around your legs and walk around in the grass. Squeeze the wet cloth and collect the water in a container. You can collect about a quart of water in an hour.

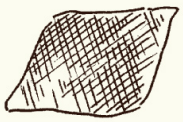
LET'S GET DRINKING WATER FROM THE RIVER!

WHAT YOU'LL NEED

bucket


box cutter


activated charcoal


gauze or cloth

plastic bottle

sand

pebbles

paper cup

The important point of making it drinkable is to boil it! If you want to know more, go do some research.

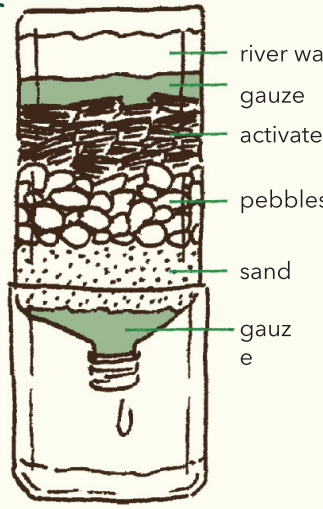
LET'S GIVE IT A GO!

1. **Collect river water with a bucket.** Sand and large contaminants will settle at the bottom of the bucket after some time.
2. **Filter the water.** Fill the plastic bottle with pebbles and sand, as shown in the picture. Pour the river water into the bottle, and filter it more than three times.
3. **Boil the water.** Pour the filtered water into a paper cup, and boil it for ten minutes to sterilize it.

Filter: to remove impurities in the water such as sand and little bugs.

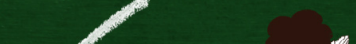
Boil: to sterilize the water by heating it up.

Will the color and clarity of the water change each time you filter it?



Why won't the paper cup burn?

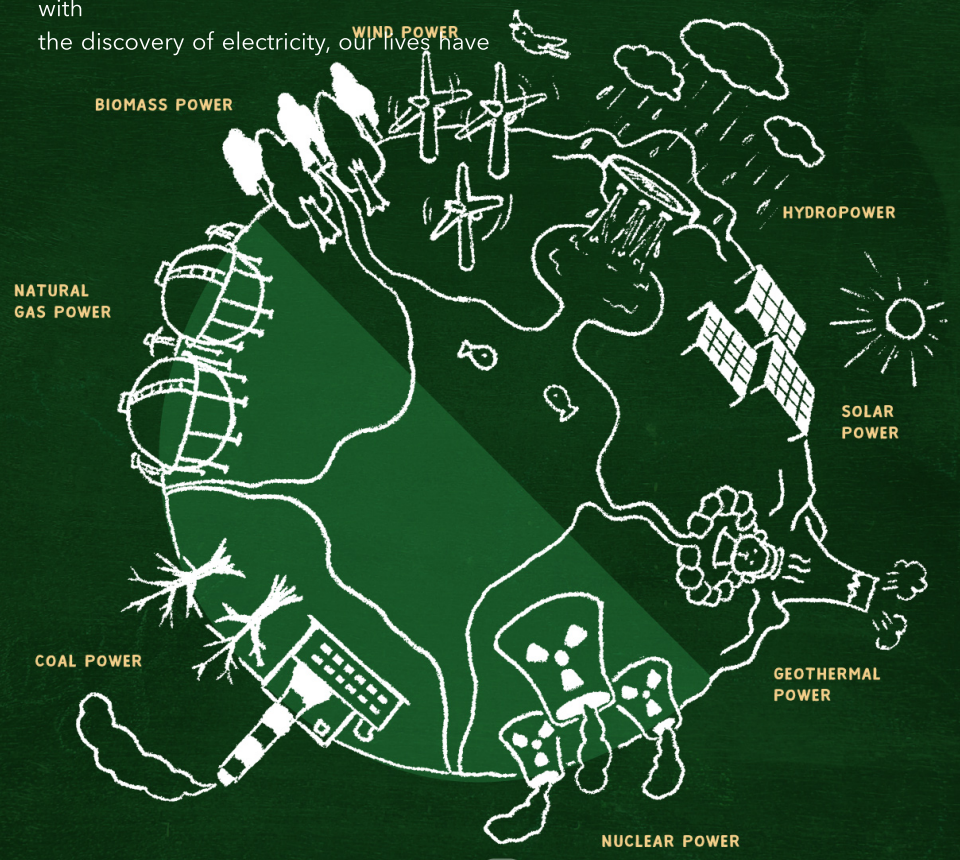
Paper burns at around 572 degrees Fahrenheit. If you boil water at 212 degrees, the temperature will not go beyond its boiling point, so the cup containing the water won't burn.



ELECTRICITY AND ENERGY

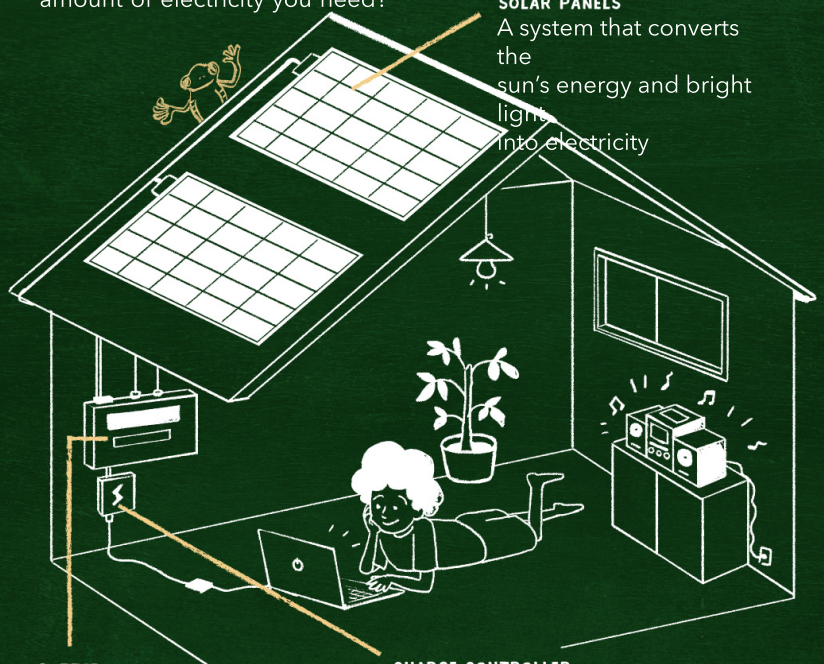
UNDERSTANDING ELECTRICITY AND MOVING TOWARD OFF-GRID POWER SOLUTIONS

Lighting, TVs, refrigerators, and air-conditioners. All of these common appliances that we use operate on electricity. Electricity is energy converted from different sources, and most of it is produced in large amounts at power plants by burning coal and natural gas. It may seem that with the discovery of electricity, our lives have become more convenient. But on the other hand, we are using up the limited resources of the Earth and destroying her. There is an abundance of unlimited energy gifted by the Earth—sunlight, rain, and wind. It would be so amazing if we could make our own electricity from these sources of energy!



MAKE YOUR OWN ELECTRICITY!

Do you know how much electricity we use in our daily lives? First,
find out how much electricity you use. What's the minimum amount of electricity you need?



SOLAR PANELS
A system that converts the
sun's energy and bright light
into electricity

BATTERY
Storage for the energy generated by the solar panels

CHARGE CONTROLLER
A component that regulates the
power from the solar panels

WHAT DOES LIVING OFF THE GRID MEAN?

Off-the-grid living means to disconnect from the electrical grid and generate
your own electricity. A common practice is to install solar panels on your rooftop
and convert sunlight to electricity. The electricity is free since you don't need to
buy electricity from power companies. During the Edo Period, when there was no
electricity, people did what was necessary while the sun was out, and ate crops
grown with help from the sun. The sun has been the source of energy in our lives
since the beginning of time.

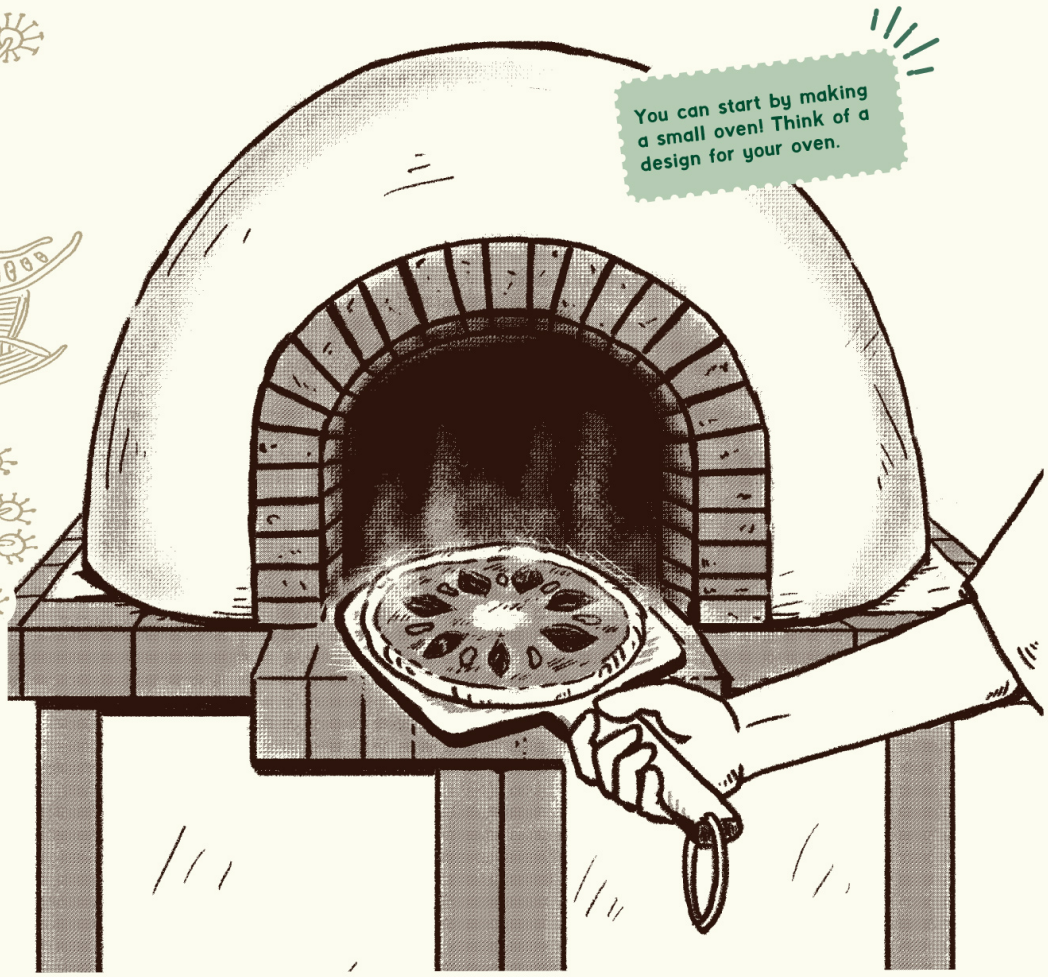
If you want to know more about energy sources, have a look at Renewable Energy at a Glance on page 128.

ACTIVITY

MAKING AN EARTH OVEN

From soil to a cooking device!

To make an oven from dirt, sand, and straw is like receiving a gift from our planet. You borrow the materials you need from Mother Earth, and when you don't need it anymore, you return them to her. The earth oven is an important cooking device that has been used all over the world for a long time. Why don't you try making the most awesome pizza with it?



WHAT YOU'LL NEED

clay soil

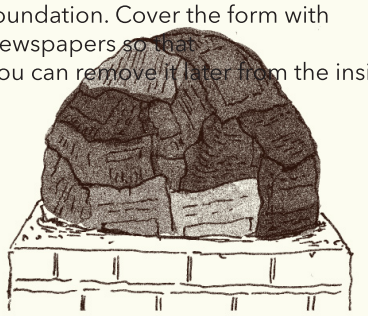
straw

sand

bricks for the base

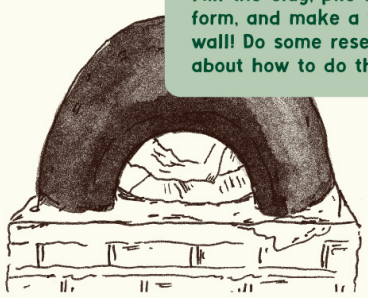
LET'S GET TO WORK!

Build the Oven Interior. Build the base with bricks. Form a mountain with earth and sand on the foundation. Cover the form with newspapers so that you can remove it later from the inside.



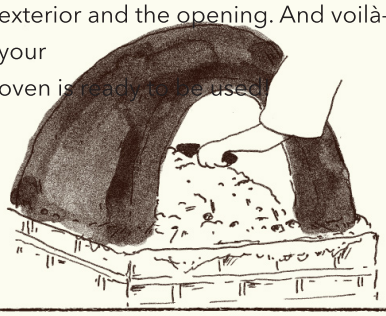
Make the First Layer. Cover the mound with clay soil. Let it dry slowly without direct sunlight.

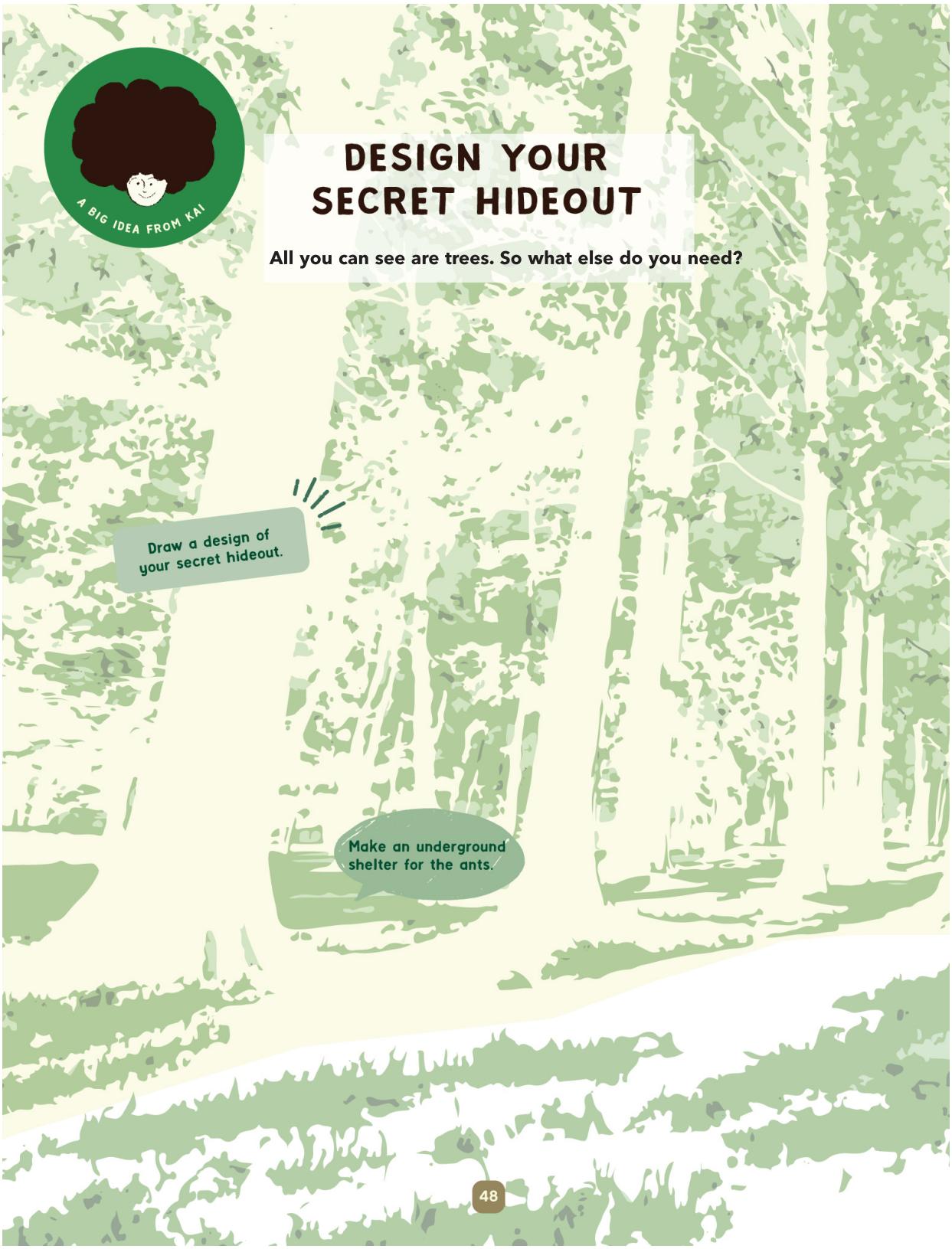
Mix the clay, pile it on the form, and make a thick wall! Do some research about how to do this step.



Make the Second Layer. Make a mixture of clay and straw and make an exterior layer with it. Let it dry slowly for one or two months, and make sure it's protected from the rain.

Add the Finishing Touch. Remove the sand from the oven interior. Smooth out the exterior and the opening. And voilà—your oven is ready to be used!



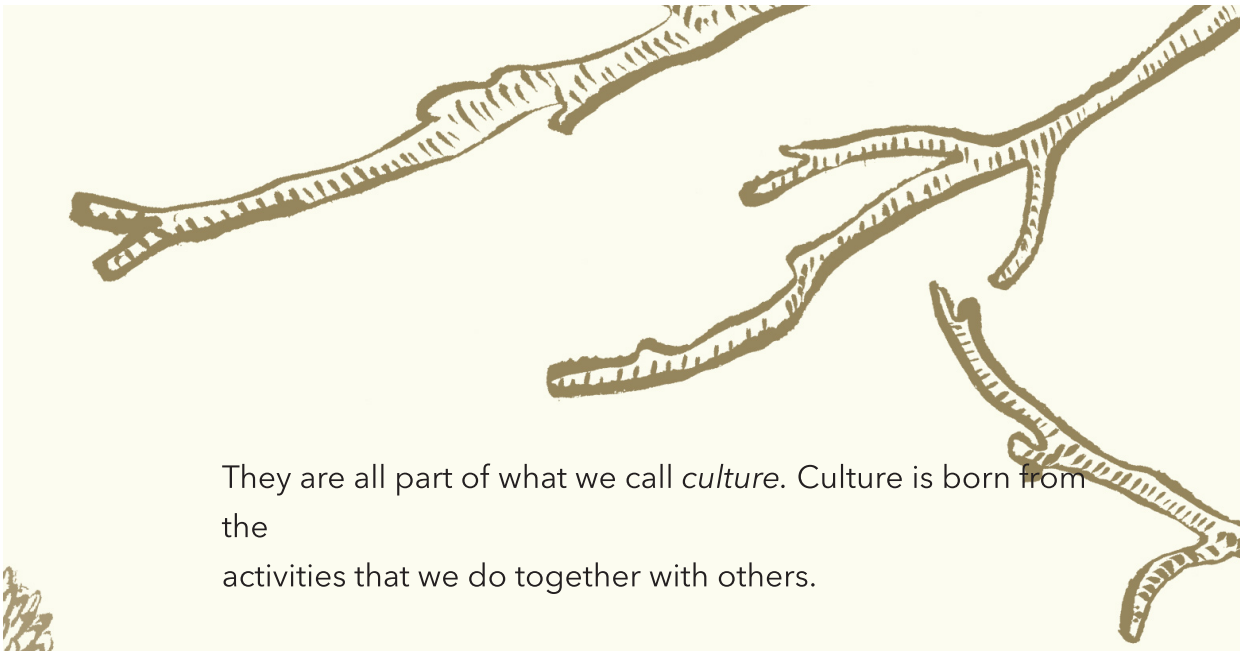

A BIG IDEA FROM KAI
DESIGN YOUR SECRET HIDEOUT
All you can see are trees. So what else do you need?
Draw a design of your secret hideout.
Make an underground shelter for the ants.

Make a sanctuary for the birds too.
Promise that you won't show this to any adults. You don't want to give your secret place away!

文化をつくる

INVENTING CULTURE

What is *culture?* It is the food that we cook; the clothes that we wear; the homes that we build; the pictures that we draw;
the songs that we sing; the dances that we dance; and the different languages we speak in the world.

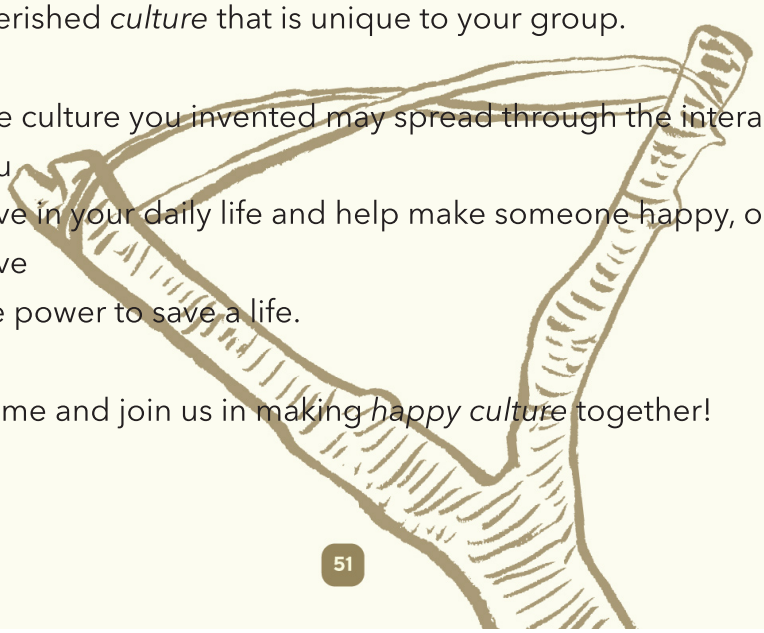


They are all part of what we call *culture*. Culture is born from the
activities that we do together with others.

The culture that we grew up in was probably created by people who
wanted to make their lives more enjoyable. That began to spread
across the world and became a part of everyone's life. So, the games
that you and your friends came up with are also treasured and
cherished *culture* that is unique to your group.

The culture you invented may spread through the interactions you
have in your daily life and help make someone happy, or it may have
the power to save a life.

Come and join us in making *happy culture* together!



HOUSES OF THE WORLD

There are countries that are hot all year round; there are countries covered in snow; and there are countries surrounded by oceans. We have many different styles of houses in the world. They are built in ways that are best suited for the particular seasons and different ways of life in each country.

NORWAY

Houses with Foliage-Covered Green Roofs

In Norway, which experiences hot summers and cold winters, people build roofs covered with sod and trees on log houses. During the summer, the plants on the roof lose water during transpiration, which keeps the houses cool, while in the winter, the green roofs provide insulation to keep the houses warm. They are also like a garden, as the roofs provide a habitat for bugs and little animals.

PERU

Floating Island Houses on a Lake

On the Uros Islands of Peru at Lake Titicaca, the Uros people build their islands from weaving totora reeds. The reeds are used to make houses, boats, farmland, and tinder, and they are also eaten as food. When someone in the group gets married, they can freely expand their island by joining them together.

JAPAN

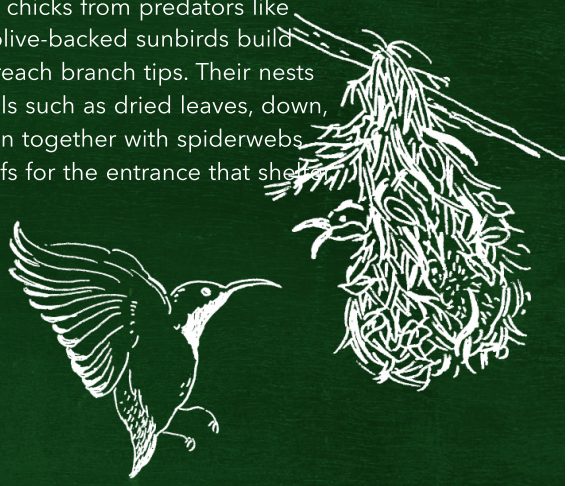
Thatched-Roof Houses

In a historic village that was once a booming area for silkworm cultivation in the Hokuriku region, in the northwestern part of the main island of Japan, villagers built big gassho-zukuri (hands in prayer style) houses with thatched roofs that were favorable for rearing silkworms, as they have well-ventilated open lofts. The steep thatched roofs allow heavy snow to fall off and rainwater to drain away. Old roofs can be used as fertilizer in the fields to grow healthy vegetables.

AUSTRALIA

Nests of Olive-Backed Sunbirds

To hide their eggs and chicks from predators like monkeys and snakes, olive-backed sunbirds build their nests on hard-to-reach branch tips. Their nests are made from materials such as dried leaves, down, roots, and feathers spun together with spiderwebs. Their nests include roofs for the entrance that shelter from the rain.



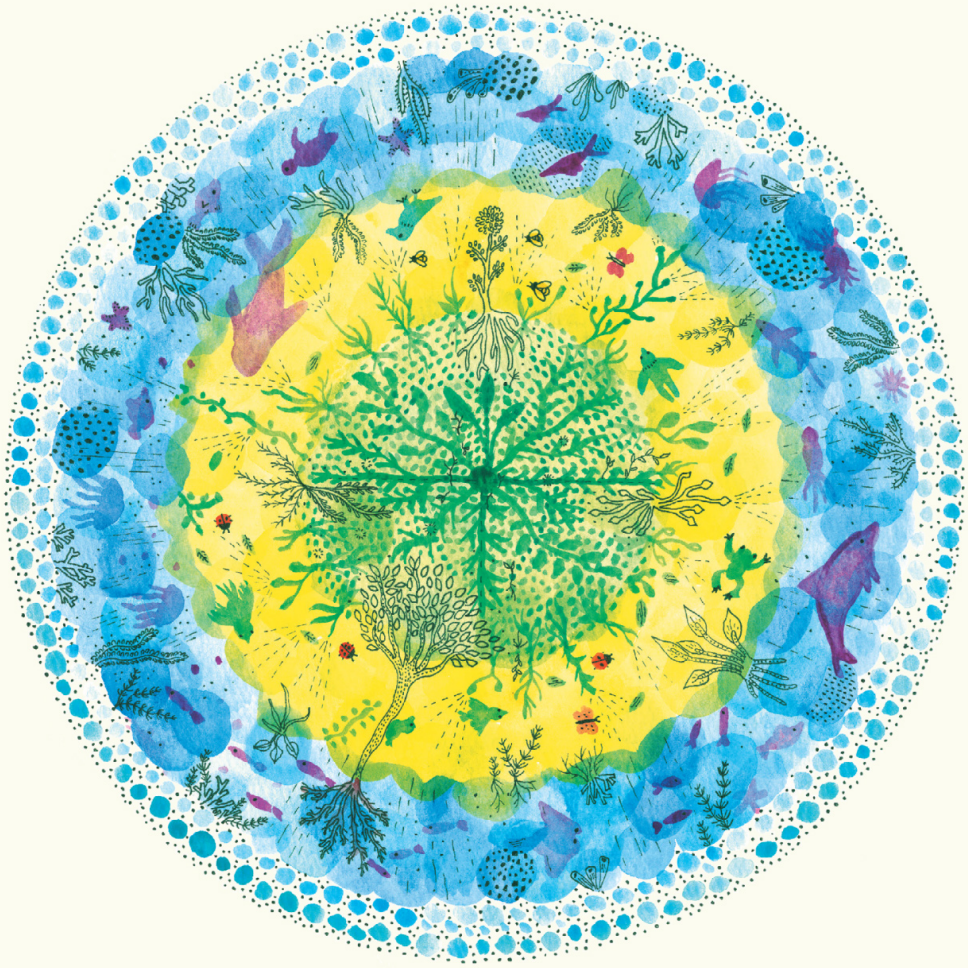
NORTHERN CANADA

Igloos

The Inuit people, who live on the snowy and icy coast of the Arctic ocean while hunting for seals, stay in igloos that are built with blocks of snow piled on top of each other. To survive the severe cold, they adjust the ceiling height of their home to prevent direct contact with cold air, and they cover the floor with furry sealskin.

WHAT'S AN EDGE?

PLAYING WITH THE EDGE

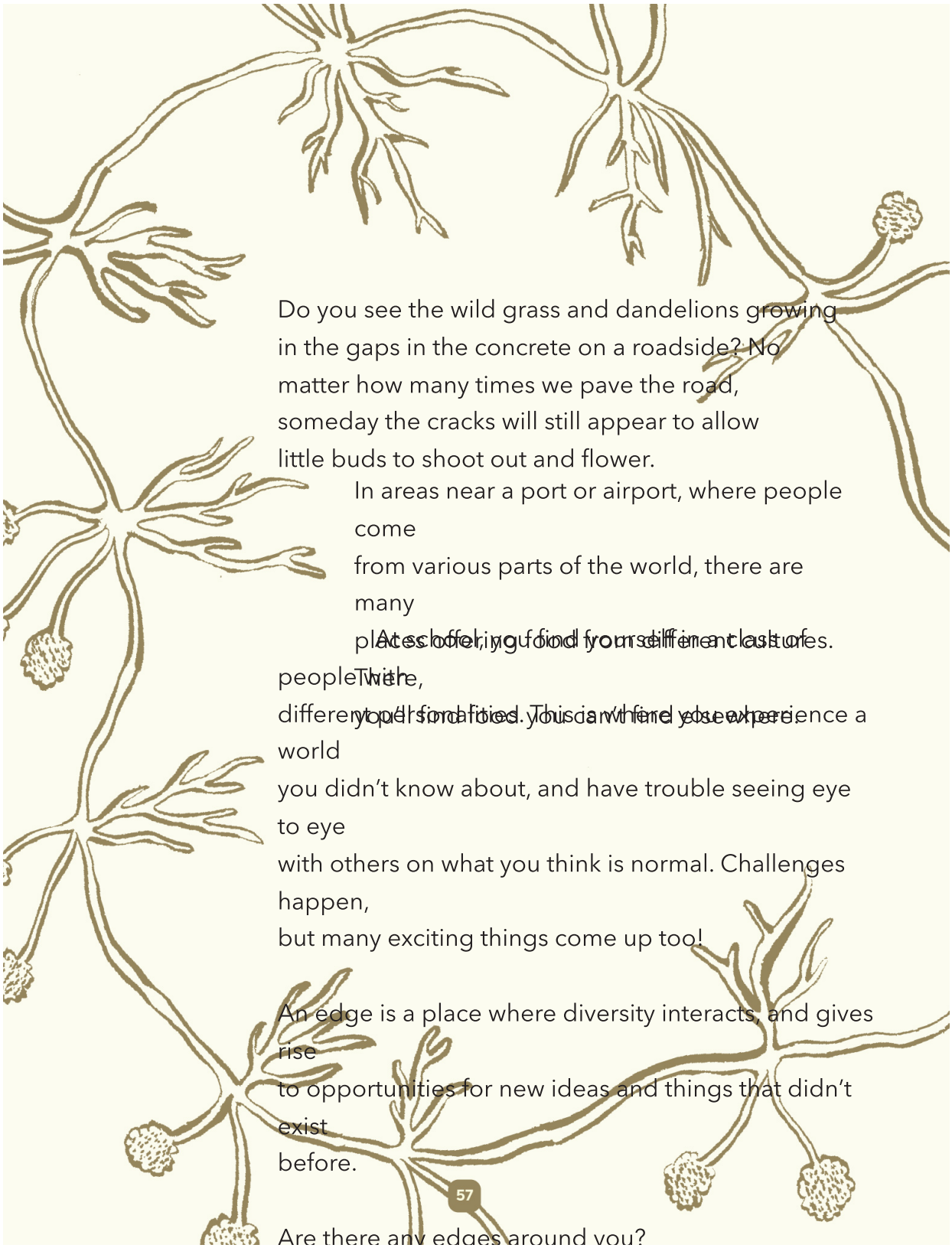


エッジであそぶ

たのしいことは
エッジにある

EDGES ARE EXCITING

Have you ever heard the word *edge*?



Do you see the wild grass and dandelions growing in the gaps in the concrete on a roadside? No matter how many times we pave the road, someday the cracks will still appear to allow little buds to shoot out and flower.

In areas near a port or airport, where people come from various parts of the world, there are many places offering food from different cultures. There, you'll find fries. This is what you experience a world you didn't know about, and have trouble seeing eye to eye with others on what you think is normal. Challenges happen, but many exciting things come up too!

At school, you find yourself in a clash of people with different personalities. This is where you experience a world you didn't know about, and have trouble seeing eye to eye with others on what you think is normal. Challenges happen, but many exciting things come up too!

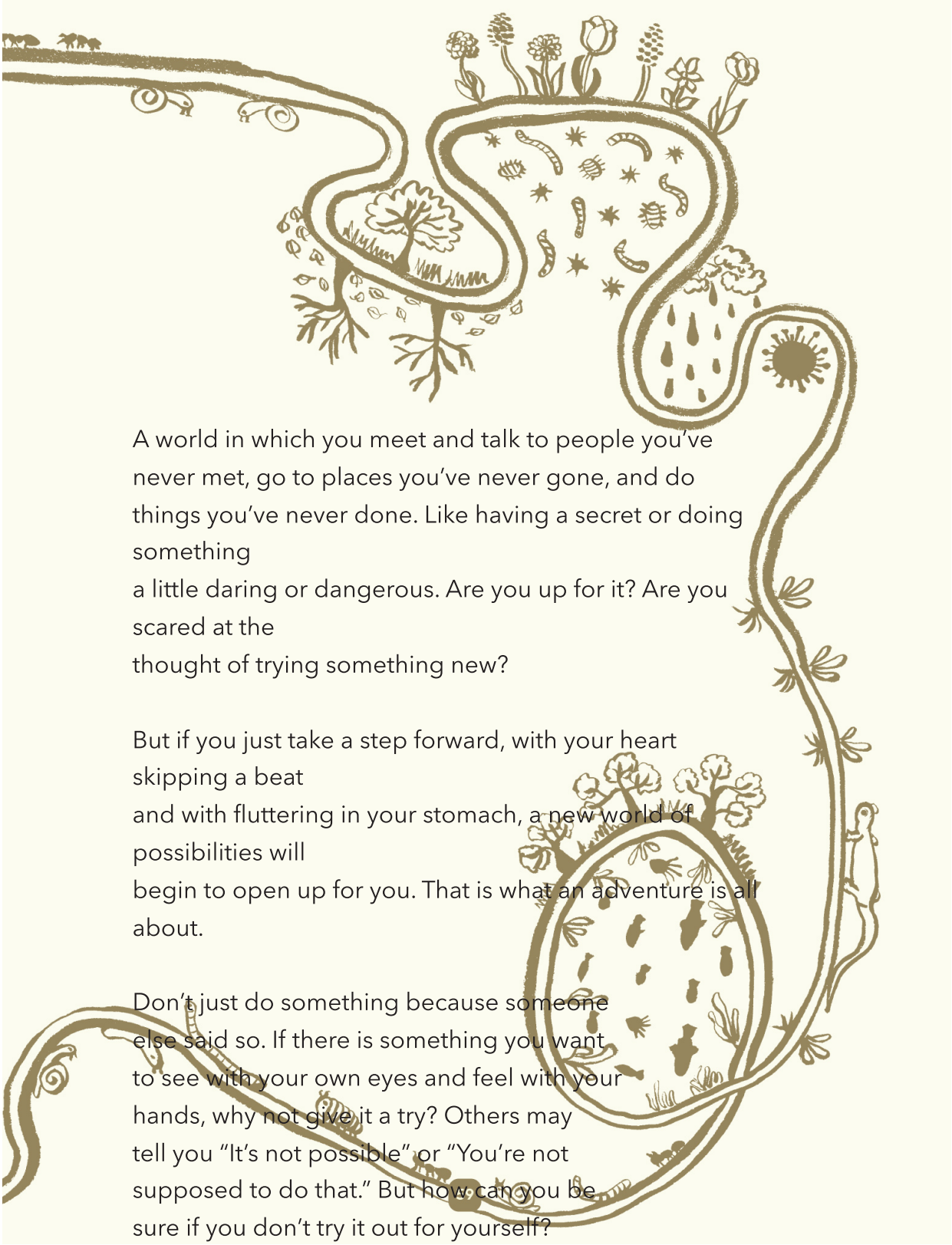
An edge is a place where diversity interacts, and gives rise to opportunities for new ideas and things that didn't exist before.

Are there any edges around you?

冒険(ぼうけん)しよう！

TIME FOR ADVENTURE!

Why is it that when we are told not to do something, we
want to do it even more? Maybe it's because you are aware
that there is an unknown world awaiting you.



A world in which you meet and talk to people you've never met, go to places you've never gone, and do things you've never done. Like having a secret or doing something
a little daring or dangerous. Are you up for it? Are you scared at the
thought of trying something new?

But if you just take a step forward, with your heart skipping a beat
and with fluttering in your stomach, a new world of possibilities will
begin to open up for you. That is what an adventure is all about.

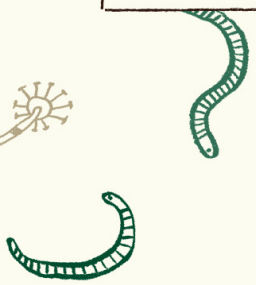
Don't just do something because someone else said so. If there is something you want to see with your own eyes and feel with your hands, why not give it a try? Others may tell you "It's not possible" or "You're not supposed to do that." But how can you be sure if you don't try it out for yourself?

ACTIVITY

SOWING SEEDS WHEN ADULTS AREN'T WATCHING!

We can make a garden anywhere.

WHAT YOU'LL NEED



your hands (or a trowel)

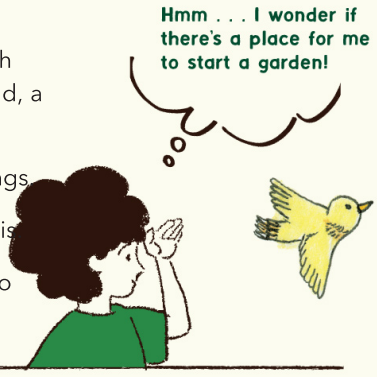
seeds, seedlings, cuttings

TIP

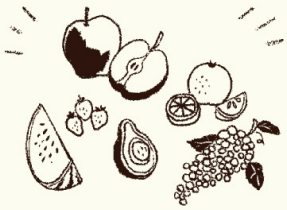
You may surprise some people if they see you sowing seeds without saying a word! So do it when they aren't watching. In reality, the Earth belongs to everyone. Just look at other animals. They are doing it too, right?

ARE YOU READY TO TRY THIS?

1. Try to get seeds and seedlings without using money.
2. Find a place to plant them: somewhere with soil. It could be an abandoned piece of land, a parking lot, or the side of a road.
3. Dig a hole and plant the seeds and seedlings.
4. Mark the spot so you don't forget where it is.
5. Come back to observe whether they start to bud or root.

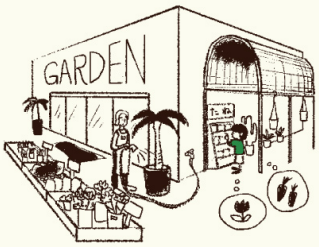


GETTING SEEDS AND SEEDLINGS



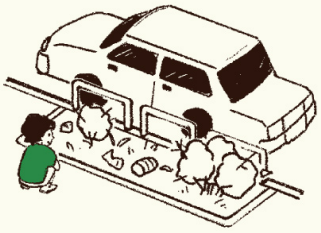
Collect seeds from fruits and other plants in nature.

Get other gardeners in your community to share theirs with you.

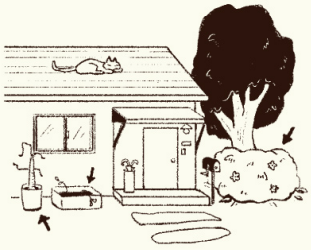


Buy them at a nursery or a supermarket.

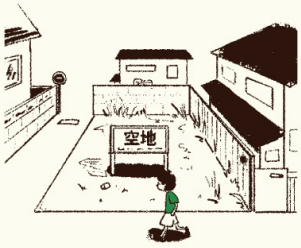
WHERE CAN YOU PLANT THEM?



unkept green spaces along the road

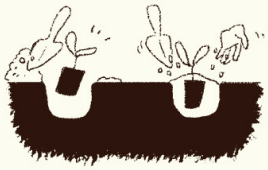


untended plant pots



unused vacant land

LET'S TRY THIS!



Dig a hole with a trowel and plant a seedling. Gently sprinkle soil on the top.

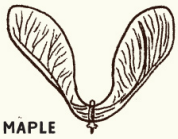
Spread seeds around as you play tag.

Scatter seeds around as you walk.

ACTIVITY

SCATTER SEEDS

Scatter seeds on vacant land in the neighborhood, and parks in need of more greenery. Seeds that can't move from place to plac by themselves have to get creative to travel far. Get to know hov seeds travel by their shape!



MAPLE

Spinning Type: It has wings that spin like a propeller.

VIOLET

Exploding Type: It is explosive and ejects its seeds with high pressure.

ACORN

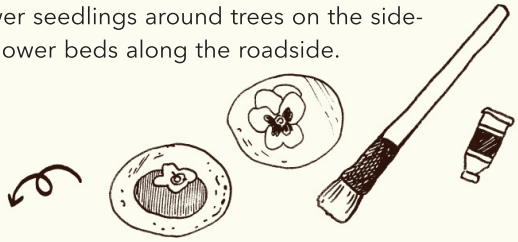
Yummy Type: It is moved around by animals, and also gets eaten by them. It can't be helped because it tastes so good!

DANDELION

Parachute Type: The fluffy parachute-like top of the seed drifts off in the wind.

PLANT FLOWERS IN EXISTING PLANT AREAS

Plant flower seedlings around trees on the sidewalk, or flower beds along the roadside.

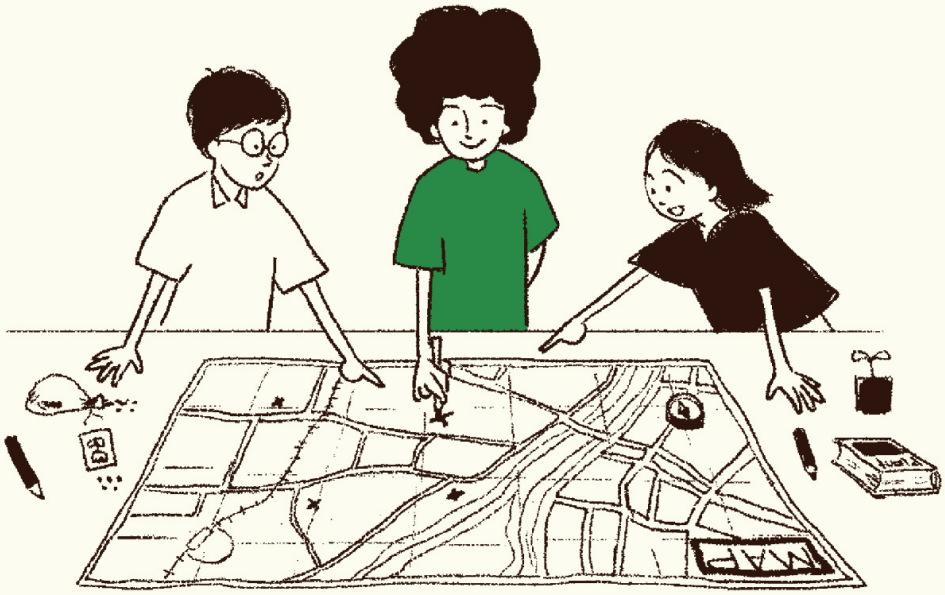


If you're likely to forget where you have planted them . . . Draw a picture of the plant on a pebble, and secretly place it there!

GO ON A SEARCH WITH FRIENDS FOR POTENTIAL PLACES ON THE STREETS TO SOW SEEDS AND PLANT FLOWERS

Come up with a team name and begin your adventure to find places to sow seeds! You could also draw an original map for yourselves.

If you get into trouble with the adults . . . Be honest with them about your mission. You may be able to convince them to plant flowers together with you.

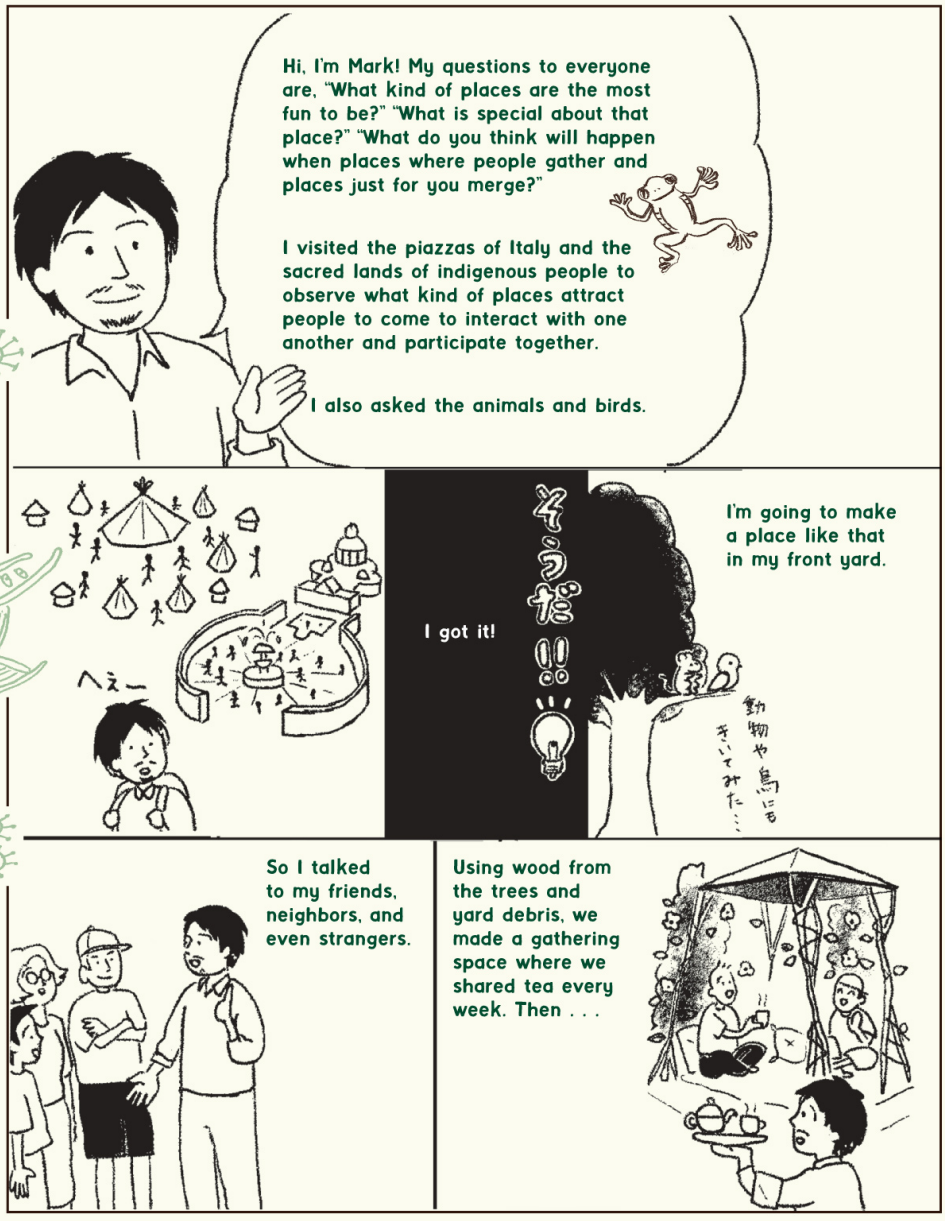


WHAT IS GUERILLA GARDENING?

Guerilla gardening is part of a grassroots movement that volunteers started in Britain
to take matters into their own hands to increase green space in public places. Even though it's hard to find land we can use freely in urban places, there are plenty of places like sidewalks and vacant spots that are not put to good use. If green urban spaces increase, the city looks livelier, and thus attracts living creatures to make their
~~home there. The important causes of guerilla gardening are the desire to make~~ where
you live a more vibrant place, and to take the initiative to make change. This creates
opportunities for new relationships to form!

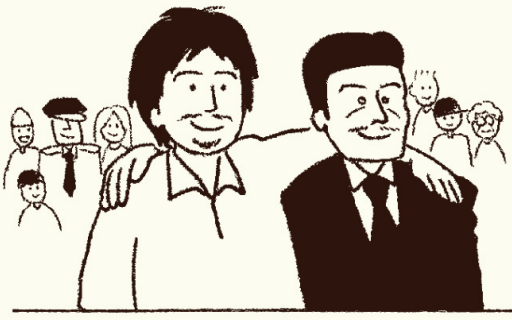
Healing Our Cities

A lively city where the community gathers!


Hi, I'm Mark! My questions to everyone are, "What kind of places are the most fun to be?" "What is special about that place?" "What do you think will happen when places where people gather and places just for you merge?"
I visited the piazzas of Italy and the sacred lands of indigenous people to observe what kind of places attract people to come to interact with one another and participate together.
I also asked the animals and birds.
へえー
I got it!
そうだ!!
I'm going to make a place like that in my front yard.
So I talked to my friends, neighbors, and even strangers.
Using wood from the trees and yard debris, we made a gathering space where we shared tea every week. Then . . .

Someone brought tasty desserts, and another person played music on their guitar.
Each person began to bring something fun.
"Hey, what are you doing?"
Then other people walking by started to join too.
People who would just watch from afar came to become one of us too.
"I think I'm in . . ."
But,"You can't just do things without asking permission!"

We were told that public spaces are national property so it's illegal to add our personal touch and make changes to them. But really, public spaces should be for *everyone*. A group of residents built secret hideouts on the sidewalks, and curiously shaped benches for people to gather freely to make their own streets a fun place for themselves.



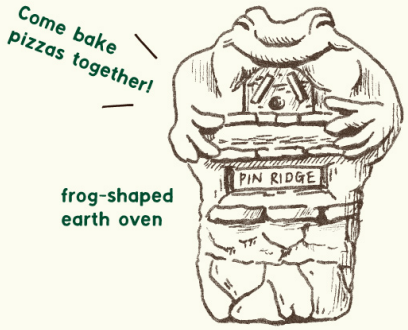
THEIR VOICES WERE HEARD: FROM ENEMIES TO FRIENDS!

Although they were first stopped by the authorities, the residents did not give up and continued to engage everyone with dignity and respect. Instead of seeing them as enemies, they believed they could befriend the authorities, and kept on trying. Not only did they succeed in getting their approval, the authorities became excited for the city to be transformed!

Reclaiming Our Public Space and Remaking It Ourselves!

This is a special place that Mark and the residents created for everyone. There is an intersection that they painted themselves, and a little wooden library on a corner of the sidewalk where anyone can borrow a book. It is a handmade part of the city that was created by everyone, both adults and children, coming together to brainstorm ideas.

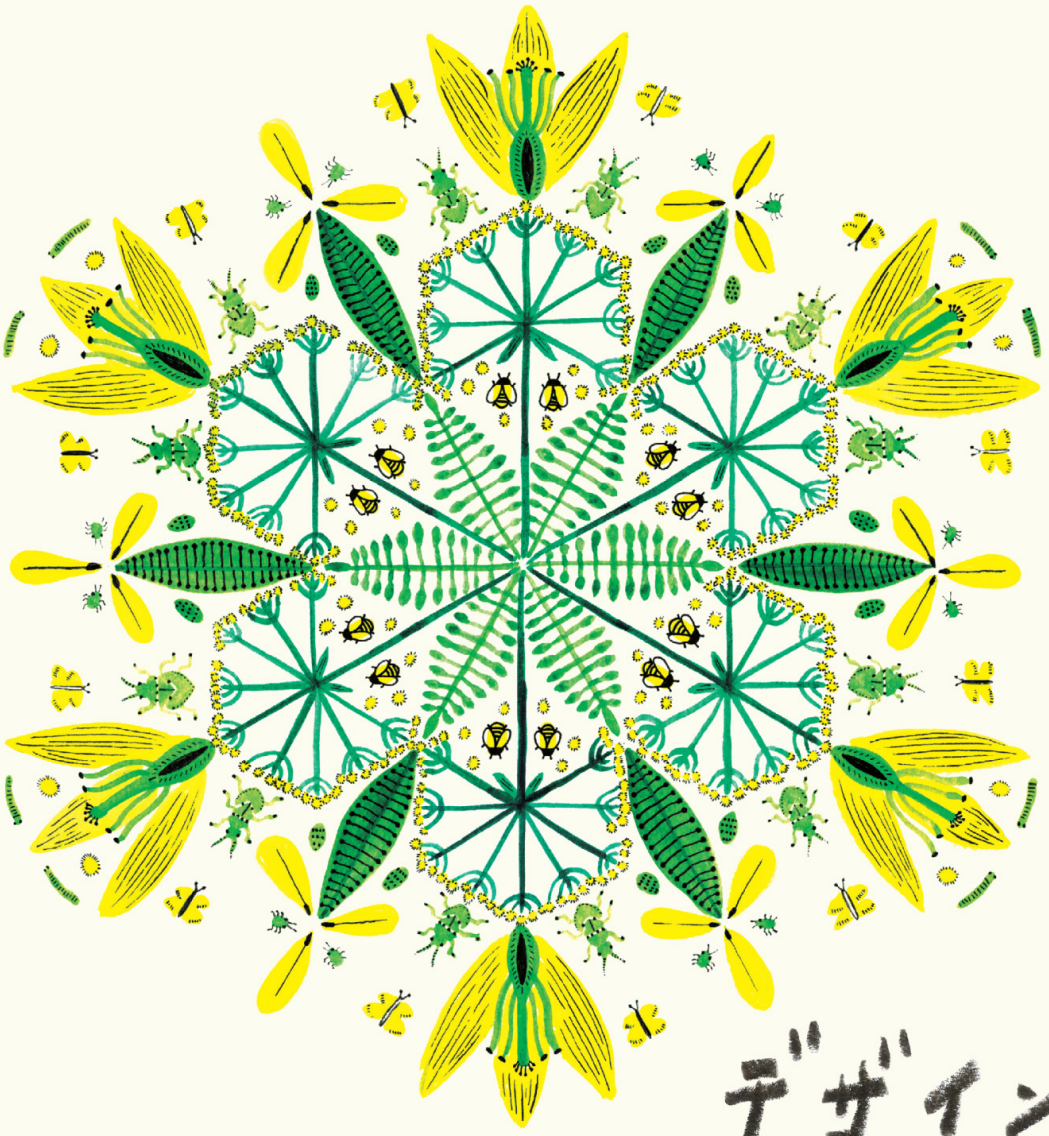
1. **Beehive Community Newsletter Box.** A home for community newsletters.
2. **Community Bulletin Board and Free Library.** Residents can write messages on the blackboard or post ads about community events.
3. **Children's Hideout.** A play space made with children with lots of toys for everyone to play.
4. **Tea Station with Green Roofed Bench.** Cups and a thermos full of tea await people to come and have a free cup of tea anytime.
5. **Earth Bench.** A bench made of earth where neighbors come to enjoy chatting!



Come take a picture with a mermaid!
mermaid bench
2
little library on a corner of the sidewalk
5
painted intersection
4

HOW DO YOU MAKE A DESIGN?

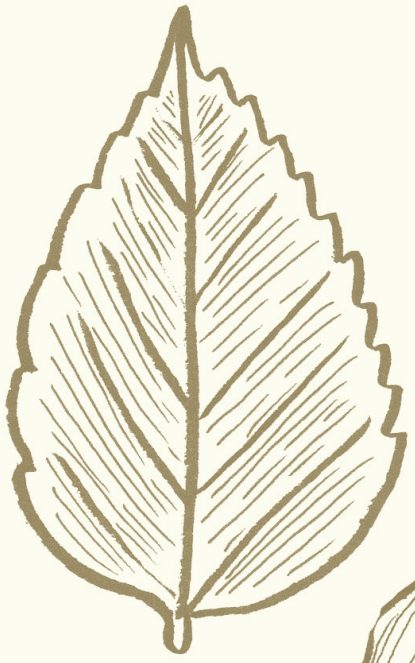
DESIGNING

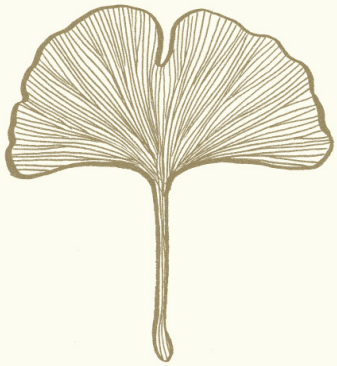


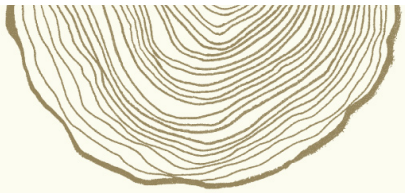
デザイン
する

デザインって
なんだろう？

WHAT IS DESIGN?







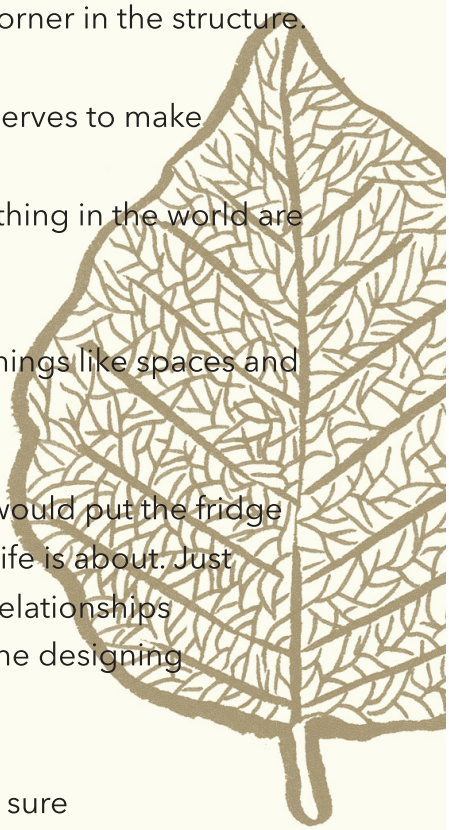
Look closely at a leaf. See the lines on the leaf branching out from one thick vein into many thin veins. It looks just like the structure of our blood vessels. Tree roots and rivers have a similar branching structure too. Nature designed this through a long process to support life to direct energy quickly and widely to every corner in the structure.

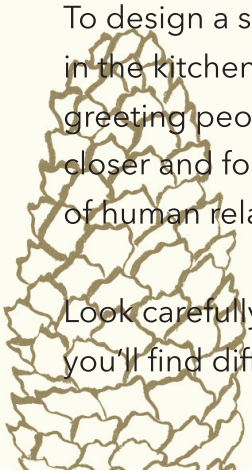
So a design is, in actual fact, a system that serves to make something better. Our human body, nature, and everything in the world are manifestations of design.

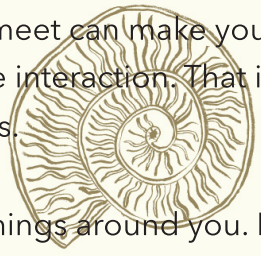
Design can also be applied to immaterial things like spaces and human relationships.

To design a smooth cooking process, you would put the fridge in the kitchen. This is what designing daily life is about. Just greeting people you meet can make your relationships closer and foster more interaction. That is the designing of human relationships.

Look carefully at the things around you. I'm sure you'll find different designs hidden in them.







観察すれば見えてくる

LOOKING DEEPLY

Patterns are visible in nature. Branching patterns can be seen
in leaves and rivers. Spiral patterns are found in hurricanes and
in water that is flushed down the toilet. There is a purpose and
function for the type of pattern in nature.

Why does the rising steam from a boiling pot look like the
clouds that float in the sky? So does the breath that comes out
of your mouth while exercising on a cold winter day.

Patterns not only exist in nature but also in human behavior.
Let's say you see an excited crowd gathering around an ice
cream shop. But then you see a group of tired zombie-like
passengers riding a crowded train in the morning.

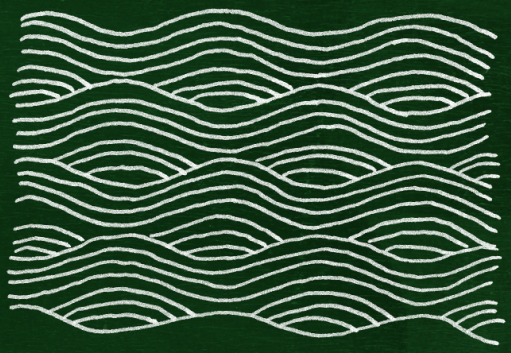
Both places have a lot of people. How come the people around
the ice cream shop have smiles on their faces?

If you ask "Why?" and "How come?" while
you observe, you'll surely be able to find
new discoveries and answers.

DISCOVERING PATTERNS IN NATURE

Our world is made up of designs.

While nothing in nature is the same, there are various patterns hidden in them. These patterns, like the spiral pattern in seashells or the branching pattern in the veins of a leaf, have evolved over many, many years as laws of nature for a specific purpose. How many things around you can you find that have these patterns?



BRANCHING

A pattern that grows out from the trunk (the core) into smaller branches (auxiliaries).

blood vessels

leaf veins

WAVES

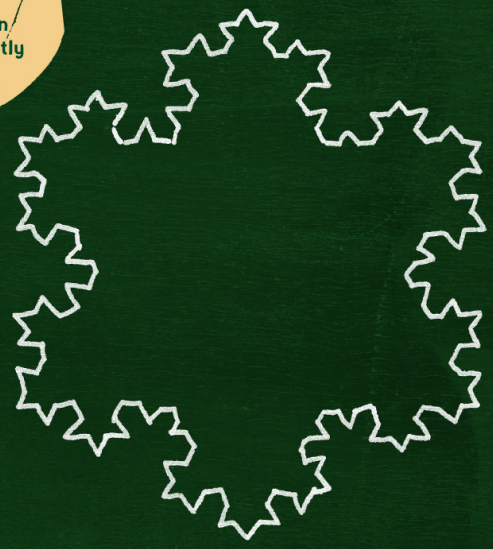
A pattern that appears repeatedly at regular intervals.

surface of the desert

ripples in water

WHAT'S THE REASON BEHIND THESE PATTERNS?

Spirals are found in our DNA and in galaxies too. Why do they have the same spiral shape, even though they differ greatly in size?



SPIRALS

A whirlpool pattern made up of continuous loops that get bigger as they extend farther away from the point.

FRACTALS

A pattern that looks similar to the whole structure.

snail shells

typhoons

romanesco broccoli

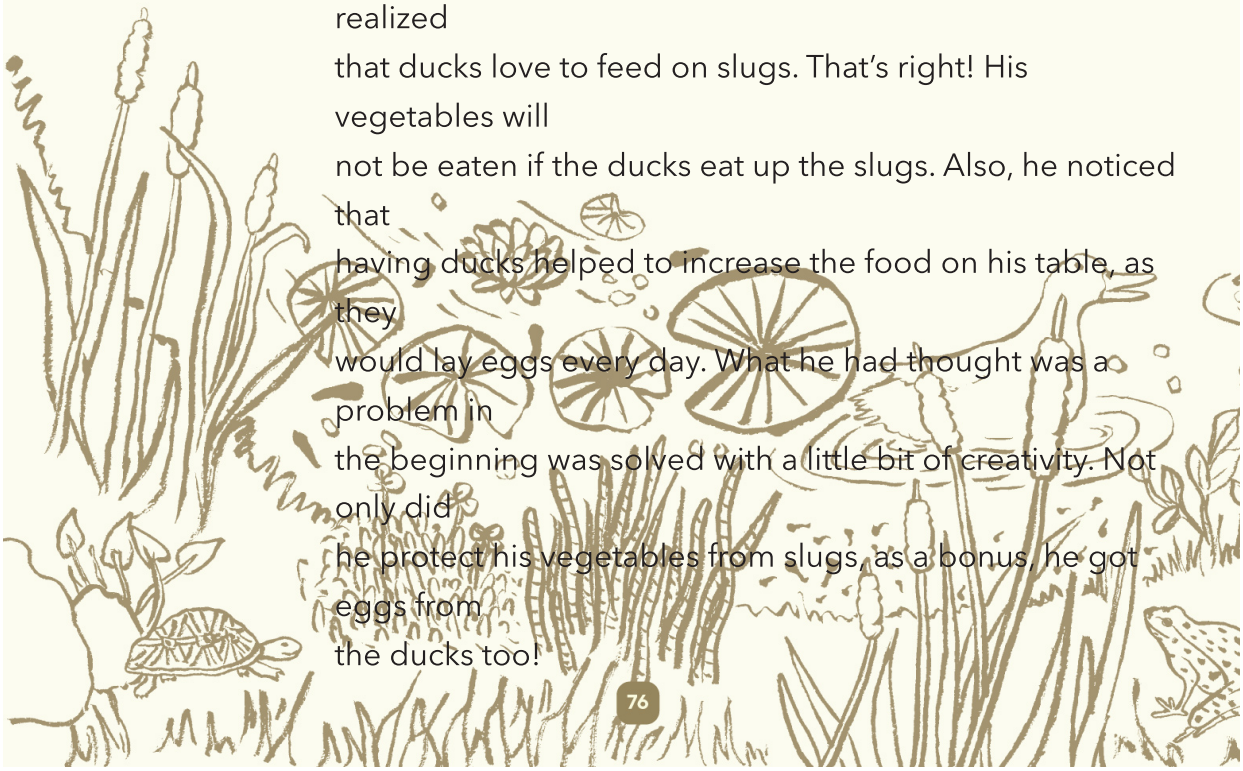
snowflakes

失敗から学ぶこと

THE PROBLEM IS THE SOLUTION

Once there was a man whose garden was infested with slugs
eating the vegetables he'd grown with so much care. On seeing his
predicament, his neighbor told him, "It's not the slugs that are the
problem in your garden. You don't have enough ducks."

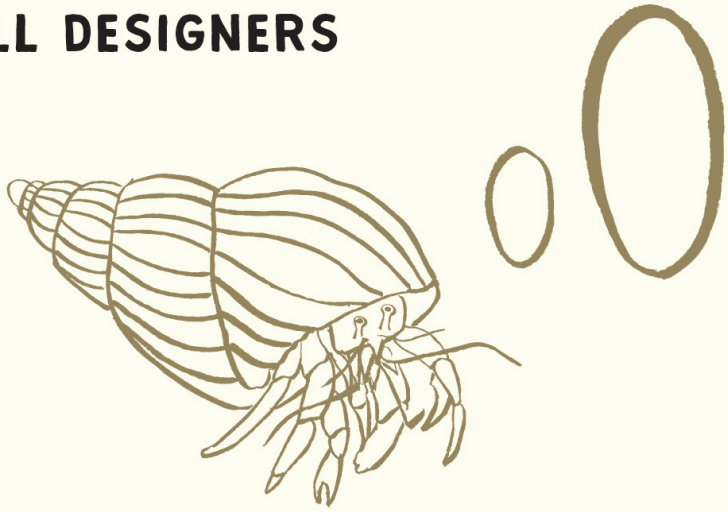
"Ducks?" the gardener replied. He thought carefully and realized
that ducks love to feed on slugs. That's right! His vegetables will
not be eaten if the ducks eat up the slugs. Also, he noticed that
having ducks helped to increase the food on his table, as they
would lay eggs every day. What he had thought was a problem in
the beginning was solved with a little bit of creativity. Not only did
he protect his vegetables from slugs, as a bonus, he got eggs from
the ducks too!



That's really amazing, huh? People tend to agonize or become
unhappy about their problems, but those problems actually
contain the seed of wonderful possibilities.

Wouldn't it be fun to play a game of finding the solutions to your
problems with everyone?

みんなデザイナーになれる
WE ARE ALL DESIGNERS



How you coordinate your clothes every day, or how you choose to
spend your time in a day—the things you choose to pair with are part
of design. Every one of your days is constructed of designs. It goes
without saying: *you* are a designer!

A good design brings out the best in people and provides many
benefits for everyone involved. Let's start by designing the
relationships with your family and friends. What can you do to draw
out the strengths in everyone and live joyfully and happily together?
Come on; let the designer in you shine! Give it your best shot!

A BIG IDEA FROM KAI

ACTIVITY

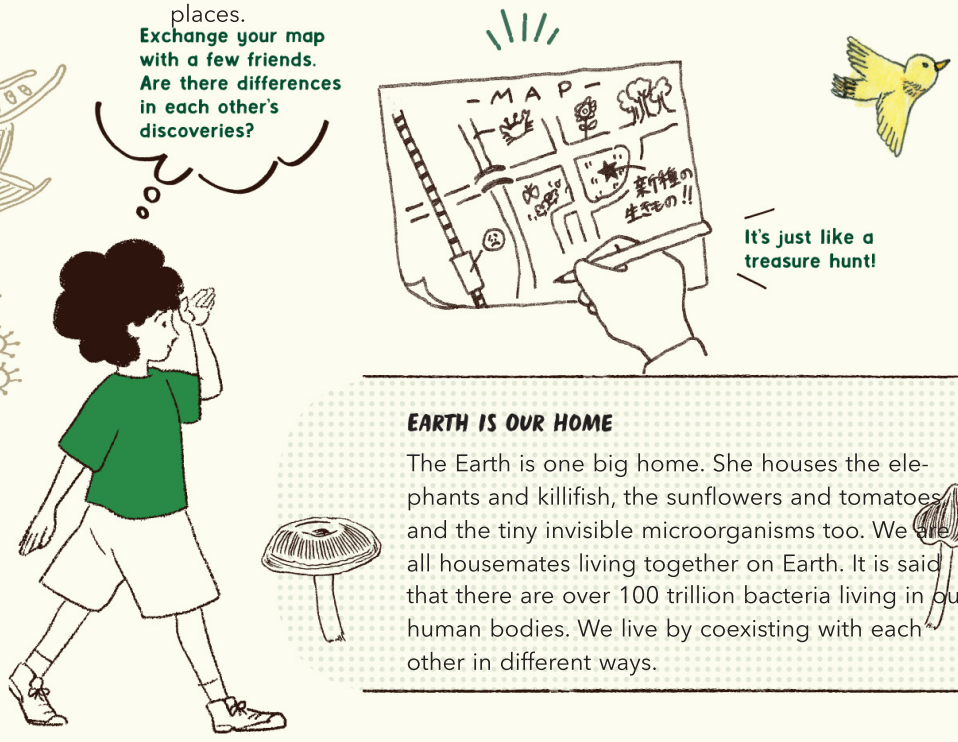
MAKE A HABITAT MAP

A Treasure Map of Life

Why does life exist there? What are the characteristics of that place? There must be a reason for life to gather around there. By learning about the characteristics and different species living in your community, you'll find many clues on how to live with biodiversity.

LET'S GIVE IT A GO!

1. Draw a map of your neighborhood.
2. Fill the map with your discoveries as you walk around the neighborhood.
3. Think and come up with answers on why life exists in certain places.


Exchange your map with a few friends. Are there differences in each other's discoveries?
-MAP-
新種の生きもの!!
It's just like a treasure hunt!

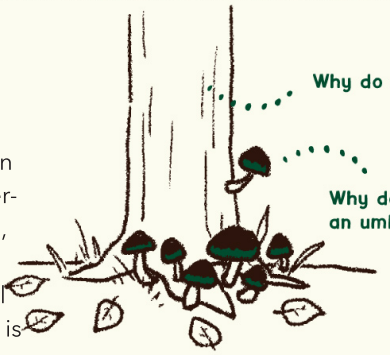
EARTH IS OUR HOME

The Earth is one big home. She houses the elephants and killifish, the sunflowers and tomatoes, and the tiny invisible microorganisms too. We are all housemates living together on Earth. It is said that there are over 100 trillion bacteria living in our human bodies. We live by coexisting with each other in different ways.

WHERE ARE THESE PLACES?

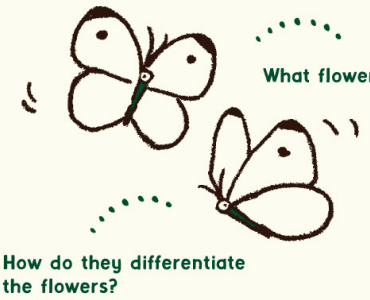
1. Where Mushrooms Grow

Mushrooms are technically not plants but fungi. The umbrella-shaped cap is the visible portion of a mushroom body. The underground portion is the mycelium, which is a mass of interwoven rootlike filaments that spread all around the soil. The mushroom is in fact a large living organism.



2. Where Butterflies Fly

It's said that butterflies have a regular flight path they use to fly. The paths, determined by the amount of light, temperature, time of day, and location of their favorite plants, vary with different butterflies. Maybe you'll find the flight path of a butterfly to spy on?



3. Where People Feel Happy or Depressed

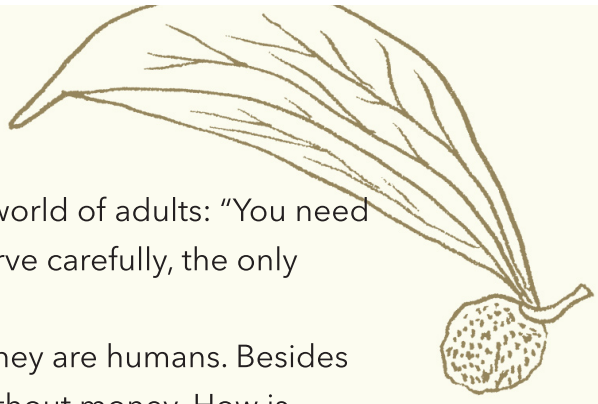
CAN WE LIVE WITHOUT
USING MONEY?

GIFTING

与えあう

お金ってなんだろう

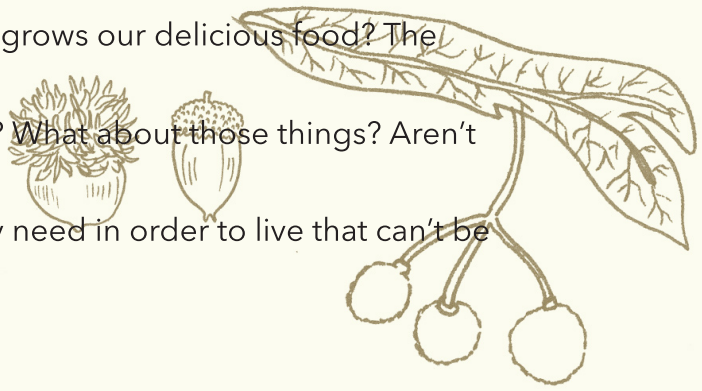
WHAT IS MONEY?



You may hear this often in the world of adults: “You need money to live!” But if you observe carefully, the only living creatures on Earth that use money are humans. Besides humans, everyone else lives without money. How is that possible?

We used to live without money too. But when money was invented, we thought it made life easier, and we have continued to use it.

So let me ask you a question: Do we really need money to live? What about the sun that gives us light? The forests and ocean algae that make oxygen for us? The rain that falls from the sky? The soil that grows our delicious food? The beautiful birds that sing for us? What about those things? Aren’t there more things we really need in order to live that can’t be bought with money?

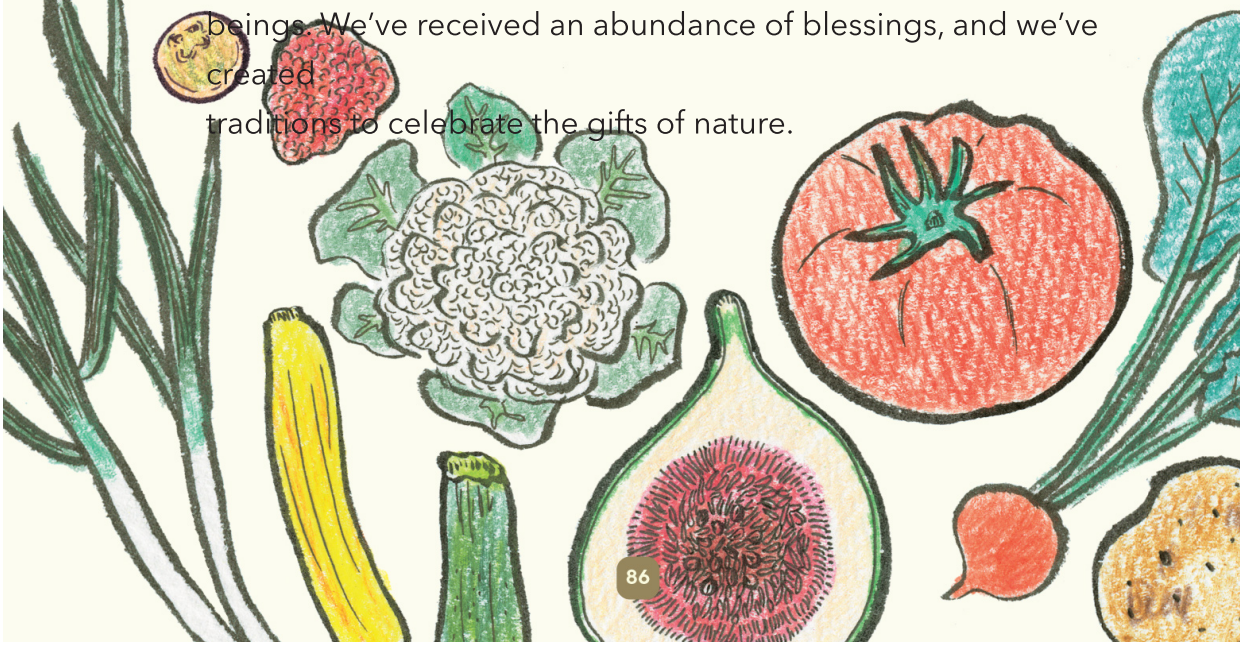


How can we make better use of all the gifts the Earth gives us freely?

交換から与えあいへ

FROM EXCHANGING TO GIFTING

Light from the sun pours down, and the trees absorb it as nutrients to make
forests. The forests then make rain and oxygen and food for many living
beings. We've received an abundance of blessings, and we've created
traditions to celebrate the gifts of nature.



When we do something that comes naturally to us, it can actually contribute
to someone else's happiness. One person's joy triggers a chain of happiness
that bubbles up everywhere, creating an ever-increasing world of abundance. This cycle of giving is the miracles that happen in nature where
money doesn't exist. It is the opposite act of fighting and competing for
resources.

Gratitude is the door that opens to the world of *gifting.* We are alive because of the blessings of gifts. What we have been taking for granted–
the sun that shines on us, and the breaths that we take–are in fact priceless
gifts of wonder.

ACTIVITY

THE MAGIC OF THANK-YOU

Develop a practice of gratitude

Think of your loving family and the friends you always hang out with. There's nothing in the world that is not special. Have you had the chance to appreciate the people around you?

THE SUN NEVER SAYS

Even
After
All this time
The Sun never says
To the Earth,
"You owe me."

Look
What happens
With a love like that,
It lights the
Whole
Sky.

–Hafez

THANK-YOU DIARY

Try writing down what you are thankful for daily for twenty-one days. It takes twenty-one days to form a daily habit of gratitude. Don't forget to thank yourself too!

DAY 0 **Thank you, [somebody's name], for cooking a delicious meal.**

DAY 1

DAY 2

DAY 3

DAY 4

DAY 5

DAY 6

DAY 7

DAY 8

DAY 9

DAY 10

DAY 11

DAY 12

DAY 13

DAY 14

DAY 15

DAY 16

DAY 17

DAY 18

DAY 19

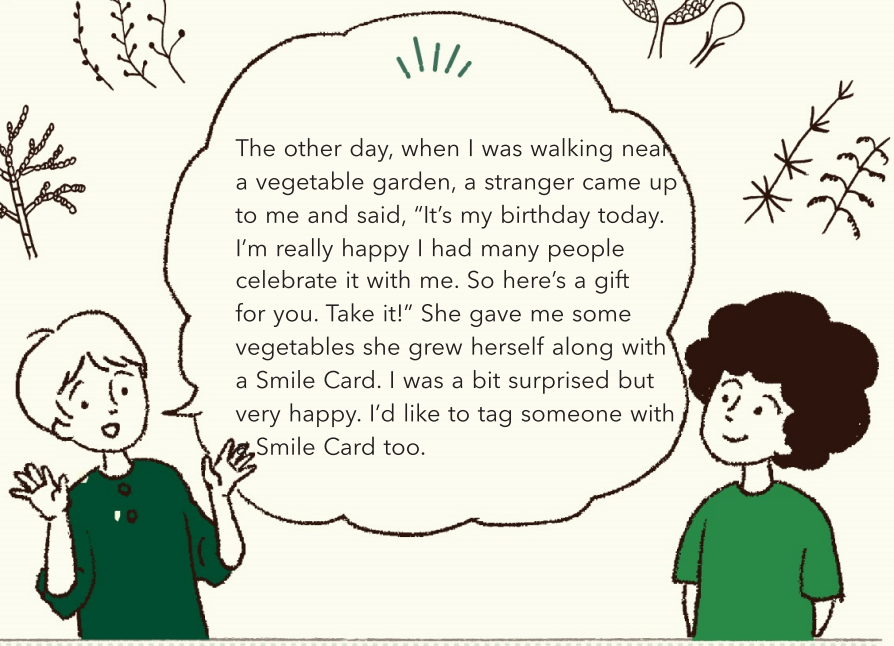
DAY 20

DAY 21

ACTIVITY

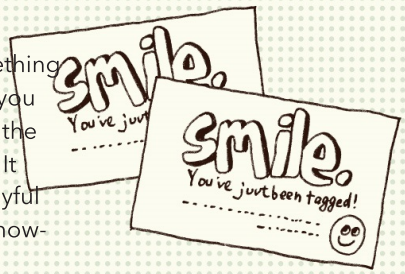
PLAYFUL ACTS OF KINDNESS

Try changing the world with kindness.


The other day, when I was walking near a vegetable garden, a stranger came up to me and said, "It's my birthday today. I'm really happy I had many people celebrate it with me. So here's a gift for you. Take it!" She gave me some vegetables she grew herself along with a Smile Card. I was a bit surprised but very happy. I'd like to tag someone with a Smile Card too.

WHAT IS A SMILE CARD?

How do you feel when a stranger does something kind for you, or does something that brings you joy? A Smile Card allows you to pay forward the kindness you've received to another person. It can be a small thing. Why don't you try a playful act of kindness for someone without them knowing? Come on–you've just been tagged!

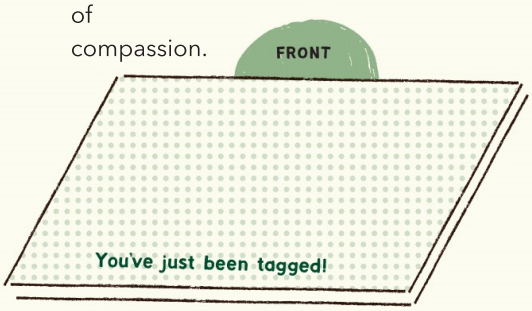


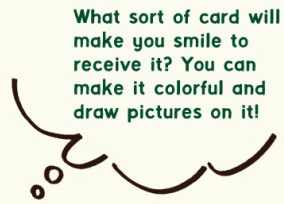
ARE YOU READY TO TRY THIS?

1. Do something kind for someone in secret and leave them a Smile Card.
2. The person who received your kindness will pay it forward to another person
3. with the Smile Card.
4. Share the story of when you received an act of kindness that made you happy.

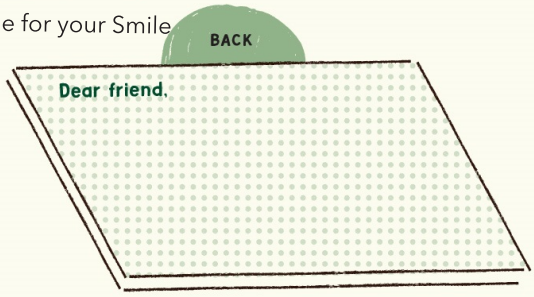
MAKE YOUR OWN SMILE CARD

Let your little acts of kindness ripple around you and extend out to a world of compassion.





(Think of an original name for your Smile Card.)



(Write a message for the recipient.)

SHARE YOUR PLAYFUL ACTS OF KINDNESS WITH US!

Hearing your playful acts of kindness and the stories of kindness you received could contribute to someone else's happiness. The small changes that you make can become a catalyst for changing the great big world we live in. We'd love for you to tell us your story. We want more people to know about your kindness and courage for trying these playful acts!

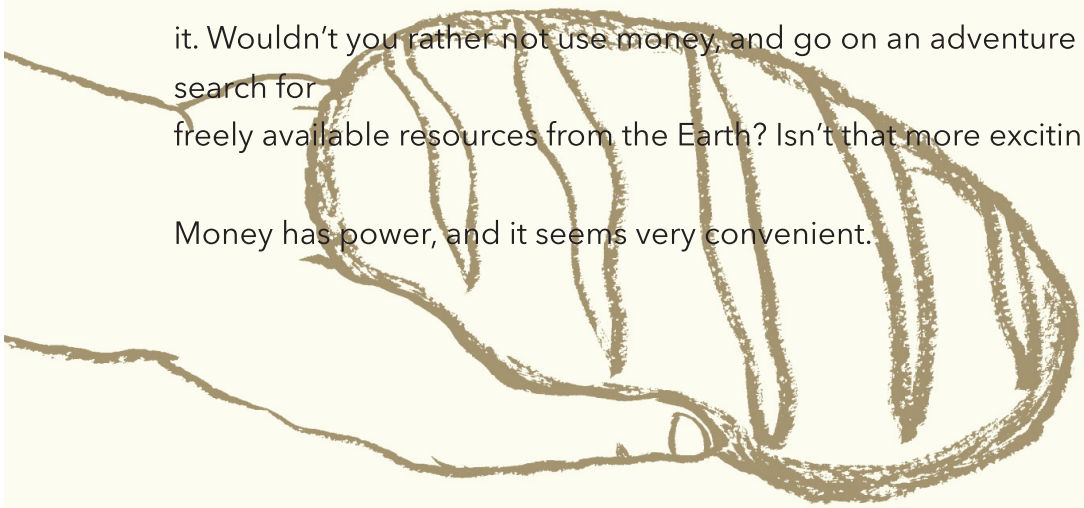
お金を使わないで生きる

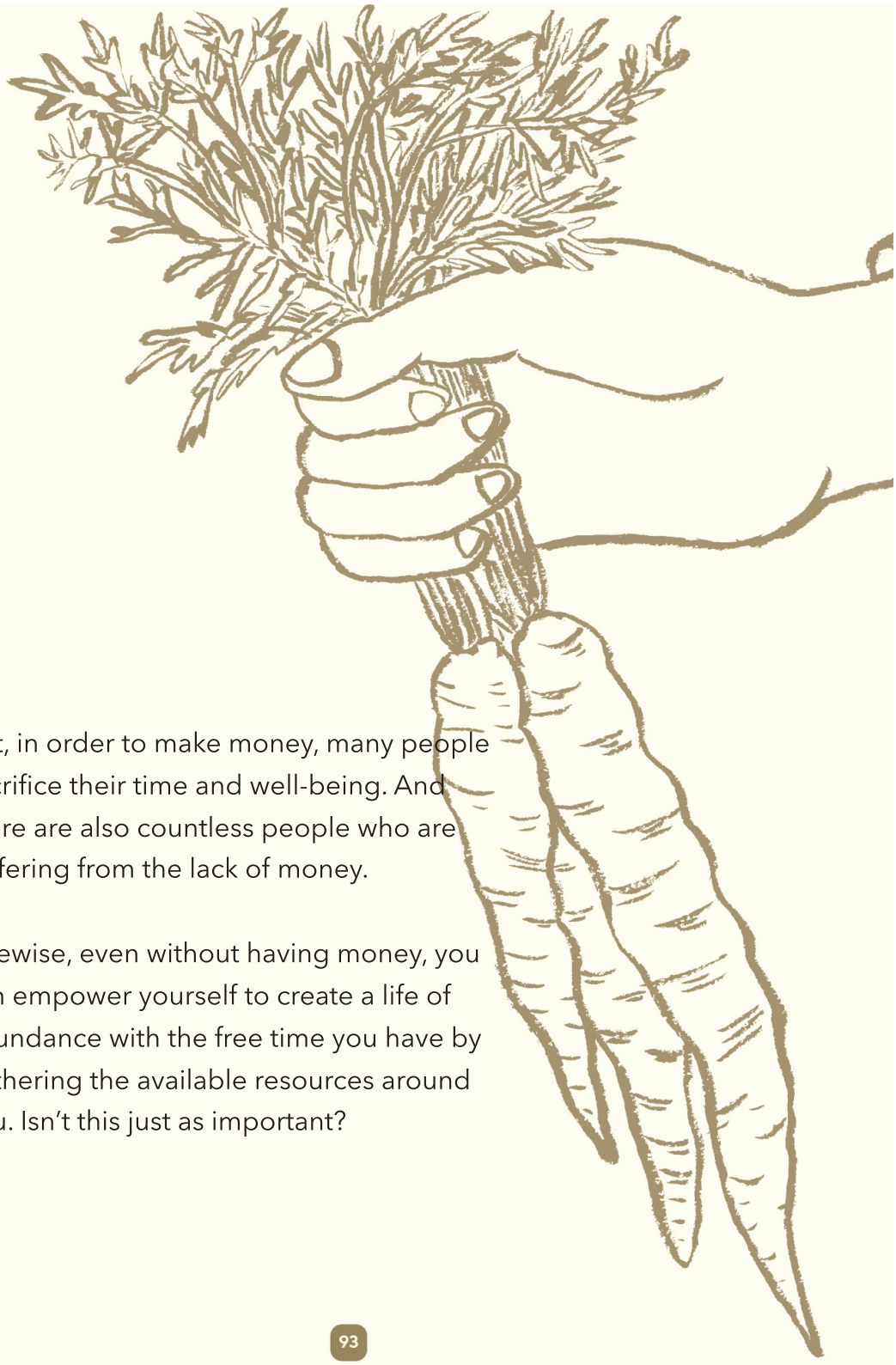
LIVING WITHOUT MONEY

It has become normal for us to buy tap water and electricity. But tap water can
be substituted with rain from the sky if we collect it. We can cook with a solar
oven if we collect the sun's energy on a sunny day. So why do we pay to use tap
water and electricity?

Of course, it's very convenient to have access to tap water and electricity
any time we want. But for that, you need to sell your freedom and work for
it. Wouldn't you rather not use money, and go on an adventure to search for
freely available resources from the Earth? Isn't that more exciting?

Money has power, and it seems very convenient.





But, in order to make money, many people sacrifice their time and well-being. And there are also countless people who are suffering from the lack of money.

Likewise, even without having money, you can empower yourself to create a life of abundance with the free time you have by gathering the available resources around you. Isn't this just as important?

ACTIVITY

SHARING YOUR GIFTS

You can manifest anything if you crowdsource for everyone's talents!

You want to start a project. And you think, "How amazing that'll be if I can make it happen!" Well, there may be someone close by who can share their gifts. Likewise, you
also have the gifts to contribute to someone's request for help. Let's say you can play an instrument, and your artist friend makes a poster for your gig. Then, your dancer friend comes in to spice up the party!

You can run out of money, but our gifts are amazing resources that are infinite. Gather the people around you to write up a list on this page of what people want to do and are
able to do. Then share and harvest each other's gifts!

GIFTS

I CAN DANCE.

I CAN DRAW.

COMMUNITY ASSET MAPPING

Uncover hidden resources and talents!

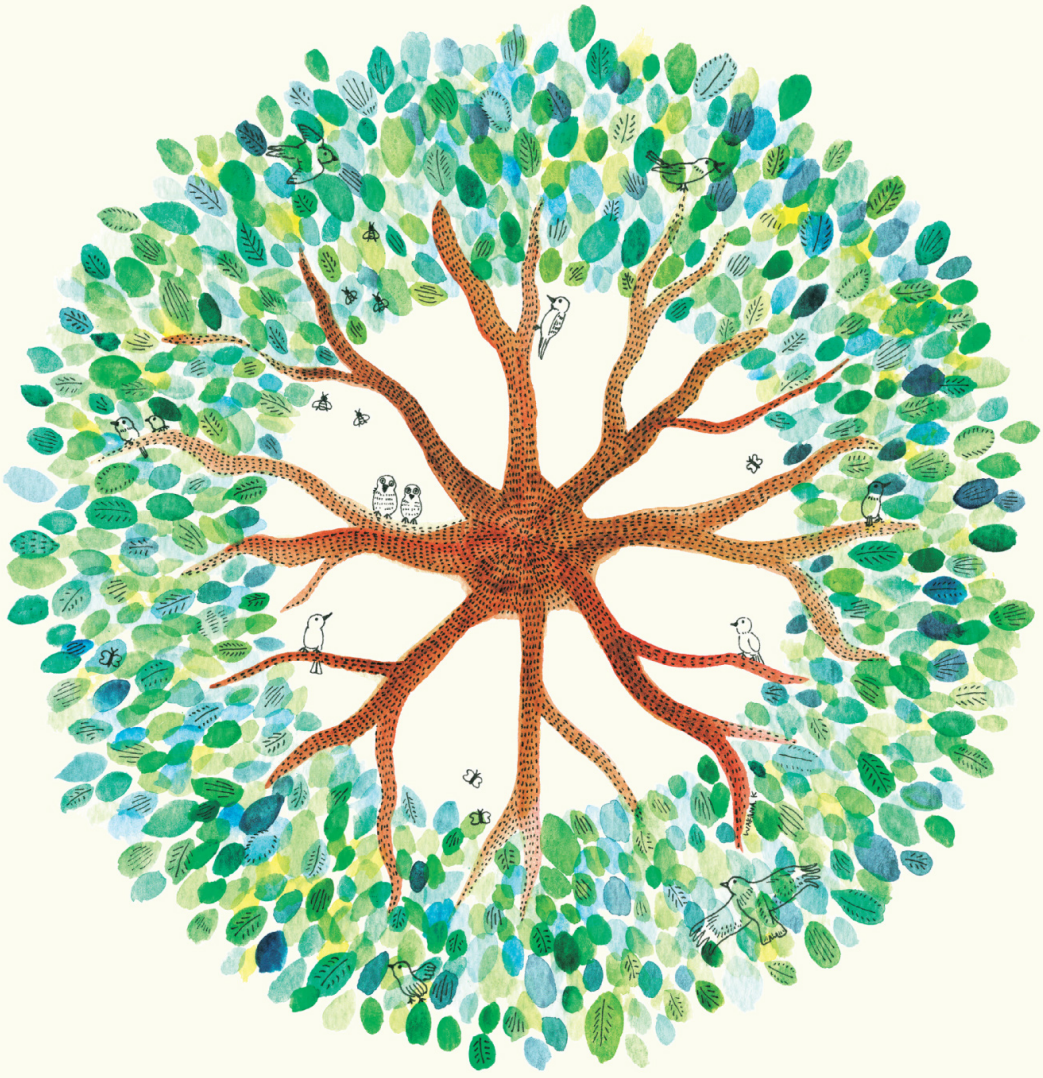
Community asset mapping is a tool to identify resources (assets) in your community through the use of maps, illustrations, or pictures (mapping). We can help access and mobilize what a community has by creating a visual map of community members' skills, human networks, facilities, organizations, and the natural environment.

REQUESTS

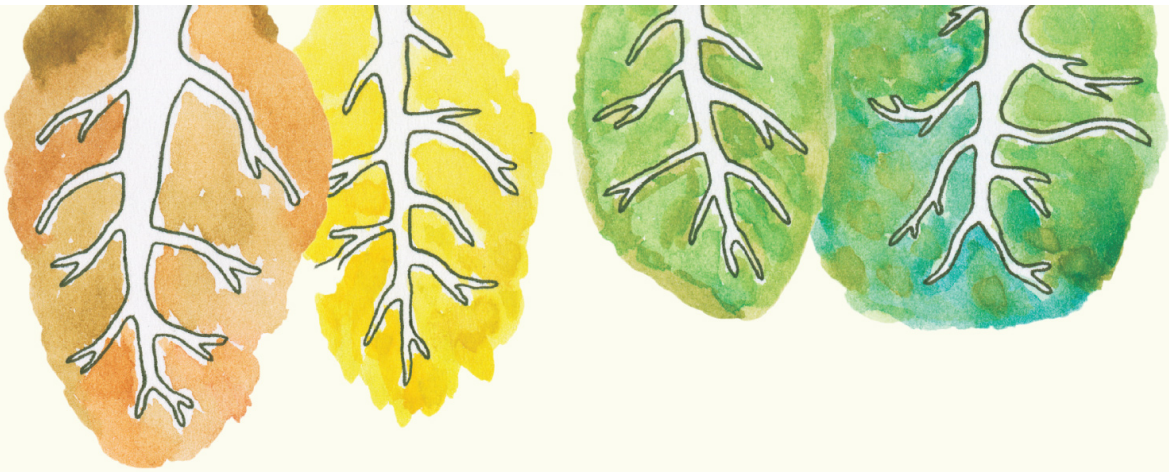
I NEED HELP ORGANIZING A PIANO CONCERT.

WHERE DO OUR FEELINGS COME FROM?

MINDFULNESS



立ち止まる



立ち止まって
感じる

STOP AND FEEL

We're breathing—it means we're alive. The oxygen coming from
the oceans and forests circulates in our body before it's exhaled
to become nutrients for other living organisms. When we make
the time to stop and feel our existence in this interconnected
web of life, we deepen and expand the roots of our heart.

Go within yourself. Different feelings of joy, sadness, anger, or
excitement may pass through you. Without evaluating each
feeling as good or bad, just be with your honest feelings.

There's nothing wrong with being angry or sad. Those feelings
are just there to tell you that something in you needs care.

今、ここを生きる

BE HERE NOW

We are alive in this present moment called “now.”

As we grow older, we gradually lose that awareness of being
here now. We get sucked in by thoughts of the past and
future and lose sight of the present moment unfolding
before our eyes.

So remember to be fully awake to this moment.
Believe in the
power it has, and keep practicing to be here now.

If your mind gets busy, stop and be still for a moment. Without any hurry, place your hand on your chest, and take in a slow breath. And you can think to yourself, “Right now, what matters most to me?”

Don’t forget to breathe and smile . When you breathe, you are coming back to the now, and living in the present. When you smile, you are watering the flowers and delicious fruit trees you want to grow in the garden of your heart.

What’s more, just being alive is enough. Let’s celebrate that we are alive, right now!

FOLLOW YOUR BREATH

THIS PAGE IS FOR YOU TO CHECK YOUR BREATHING.

READY?

THE WIND THAT CARRIES THE AIR FROM A FARAWAY COUNTRY PASSES.

FIRST, INHALE DEEPLY THROUGH YOUR NOSE.

NOW, SLOWLY, EXHALE THROUGH YOUR MOUTH.

FEEL THE AIR MADE BY THE FORESTS AND THE OCEANS GOING IN THROUGH YOUR NOSE AND OUT.

3-2-1 BREATHE IN.

THIS PAGE IS FOR YOU TO CHECK IF YOU'RE ALIVE.

THROUGH YOU, NOURISHING YOUR BODY. THE COOL AIR THAT COMES IN, AND THE WARM AIR THAT GOES OUT.

DO YOU FEEL THE DIFFERENCE?

CAN YOU SMELL AND TASTE THE AIR?

IT PASSES THROUGH YOUR WINDPIPE. FEEL IT FILLING UP YOUR LUNGS.

NOW, SLOWLY, EXHALE THROUGH YOUR MOUTH.

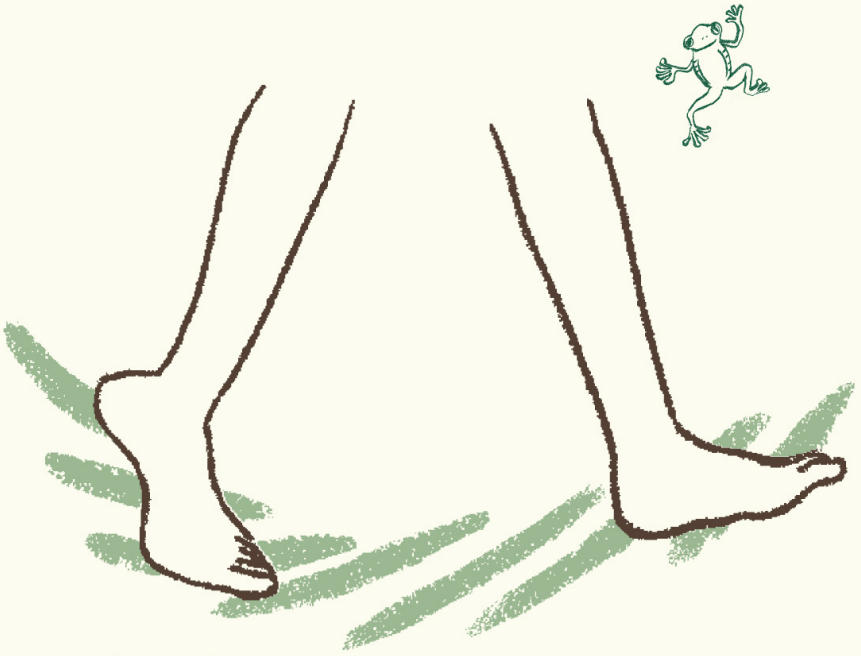
HA-A-A . . .

ACTIVITY

MINDFUL EXERCISES

BRING YOUR MIND BACK TO YOUR BODY

In Japan, the word *breath* in Chinese characters means "my mind." So to breathe is to bring our mind and body together. Let's practice going home to our body and being *here* now.

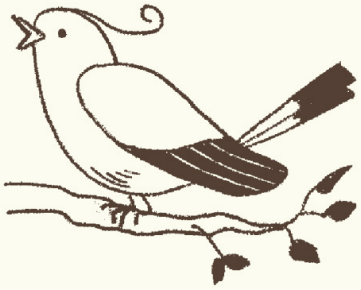


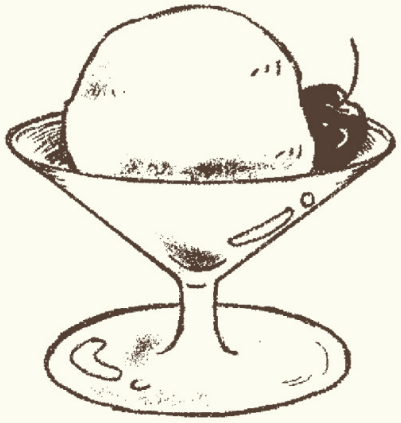
WALKING MINDFULLY

Feel the Earth with the bottoms of your feet. Imagine kissing the Earth with each step you take. Take one step . . . two steps . . . slowly. Feel the tiny pebbles, the cracks on the ground, the warm earth, and the soft grass on your feet. You can feel the temperature of the Earth through your skin.

LISTENING TO THE BIRDS MINDFULLY

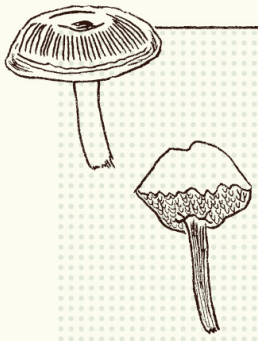
When you hear a bird chirping, stop and lend your ears. That's an invitation to practice mindful listening.





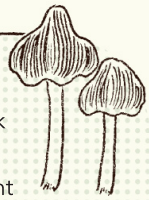
EATING ICE CREAM MINDFULLY

Savor every single bite of your ice cream. How do the sweet and cold sensations change in your mouth?

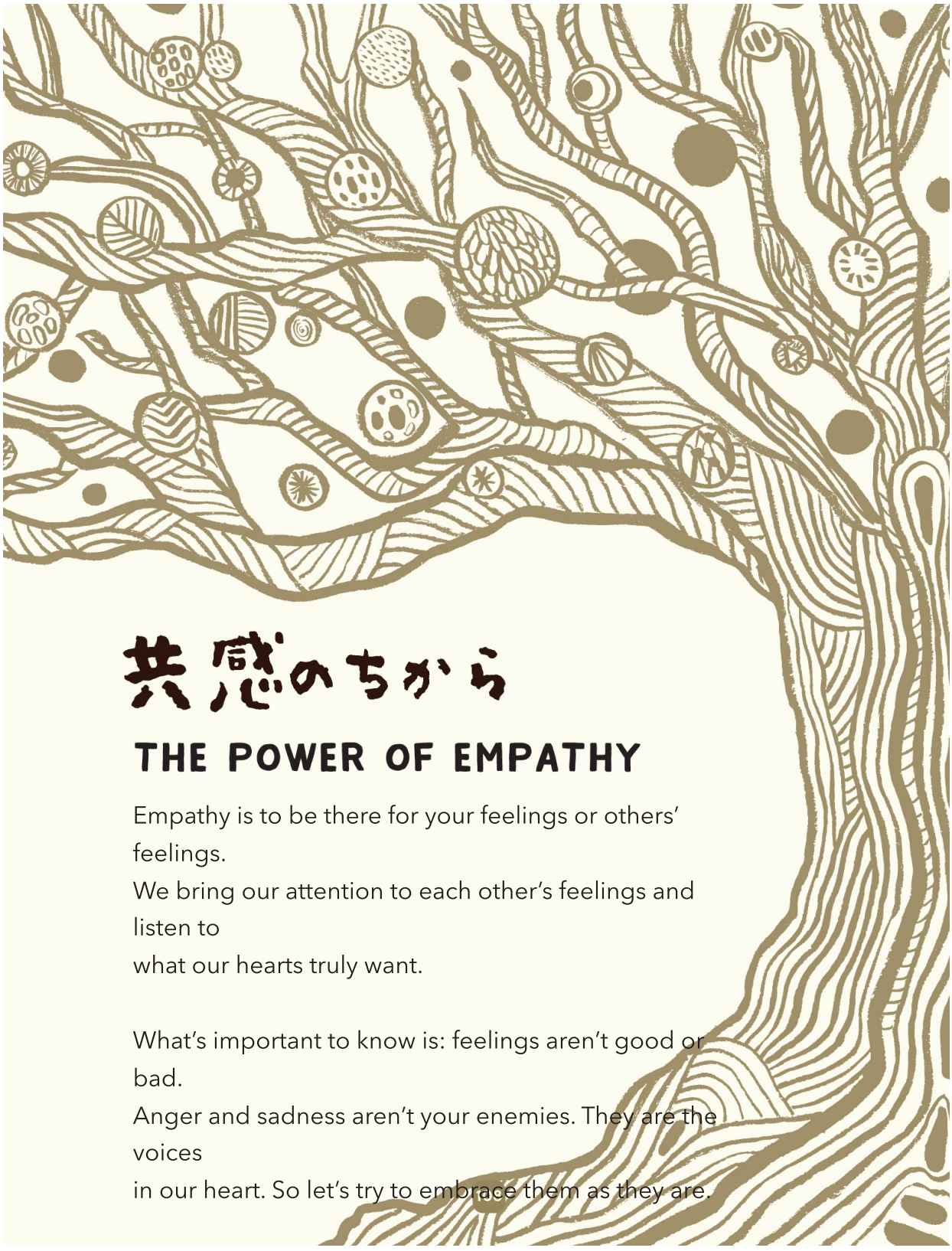


WHAT IS MINDFULNESS?

Mindfulness is the practice of bringing our mind back to
the body. You can connect with yourself in the present moment by paying attention to your breathing. The Vietnamese Zen Master Thich Nhat Hanh says we can practice mindfulness at any time, not just while sitting still, but also when we are eating, singing, or doing anything else.



MINDFUL COLORING
Focus your mind just by coloring.



共感のちから

THE POWER OF EMPATHY

Empathy is to be there for your feelings or others' feelings.
We bring our attention to each other's feelings and listen to
what our hearts truly want.

What's important to know is: feelings aren't good or bad.
Anger and sadness aren't your enemies. They are the voices
in our heart. So let's try to embrace them as they are.

It's great when someone else is feeling happy. But if they are
feeling angry or sad, you can just be with them and empathize:
"Are you really mad?" or "Are you feeling sad?" It's helpful to be
curious about what you and the other person are feeling. This
will help you to welcome all feelings with care.

Have you ever had a fight with a friend? Or has your mom ever
got mad at you? Look back and recall what your friend or your
mom could be feeling underneath what they said. What

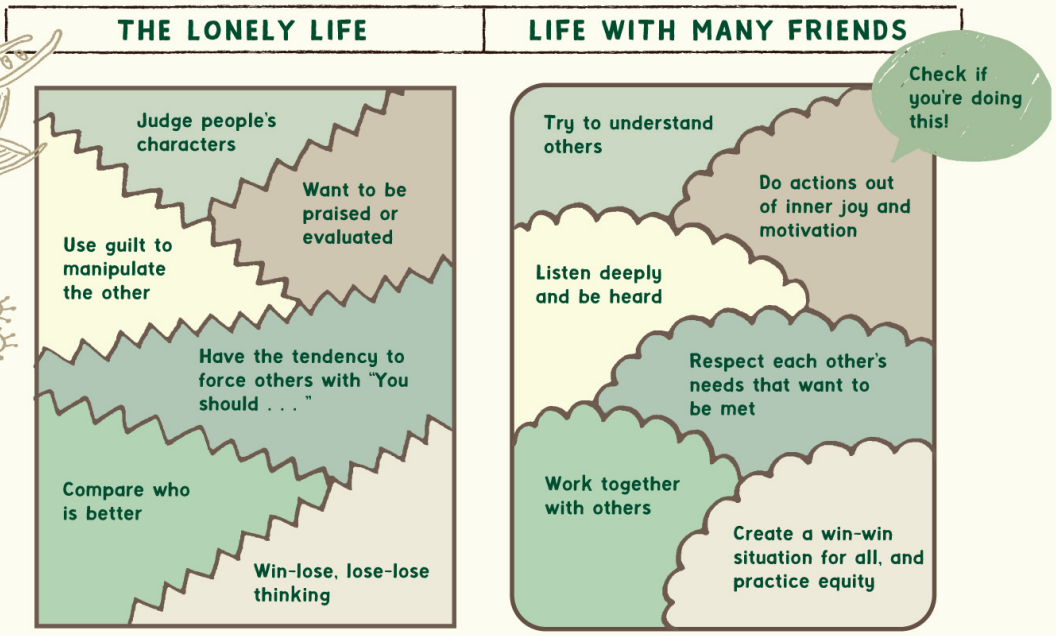
ACTIVITY

CONNECTING WITH THE LANGUAGE OF LIFE

The practice of listening to our heart with compassionate communication

WHAT IS COMPASSIONATE COMMUNICATION?

Have you ever had these experiences? You didn't want to fight, but you couldn't help saying mean things to the other person. Or you wanted to be understood, but your friend just didn't understand. Despite caring, we still end up hurting someone with our words. This is because when we unconsciously label that person as *bad* or *wrong,* it makes it hard for us to connect deeply with our feelings. When that happens, connect with your feelings first, and then try to connect to theirs. When you can connect with and express your genuine feelings, it may help to create a compassionate connection with others.


THE LONELY LIFE
LIFE WITH MANY FRIENDS
Judge people's characters
Want to be praised or evaluated
Use guilt to manipulate the other
Have the tendency to force others with "You should . . . "
Compare who is better
Win-lose, lose-lose thinking
Check if you're doing this!
Try to understand others
Do actions out of inner joy and motivation
Listen deeply and be heard
Respect each other's needs that want to be met
Work together with others
Create a win-win situation for all, and practice equity

Reference: Communication Fundamentals *by Jean Morrison. Compassionate nonviolent communication (NVC): A communication process developed in the 1960s by clinical psychologist Marshall Rosenberg.*

DISCOVER YOUR DEEPEST NEEDS WITH THE NEEDS CARDS!

Feelings arise from having our needs met or unmet. But often we're not aware of our needs. The Needs Cards can be used as a game to help you and your partner discover each other's needs, such as to express your truth or to make a request from
the other. Like, "That day, what I really wanted was [Needs Card]."

CONNECT WITH YOUR NEEDS USING THE NEEDS CARDS!

Form a group of three or four people to play!

1. Lay out the cards and decide who speaks first.
2. Speaker talks about a recent problem they have had.
3. Listener tries to guess the needs of Speaker.
4. When Speaker is finished, Listener picks up each Needs Card with the question, "Are you wanting . . .?"
5. Speaker can choose from the rest of the Needs Cards if there are other needs they connect with.

Speaker picks the three most important Needs Cards from their pile and spends some time connecting with those needs. This is a process of self-empathy.

※ **Needs:** Things that are fundamental to us that we want to care for.

Make other Needs Cards you wish to have.

※ It's said that there are more than one hundred needs.

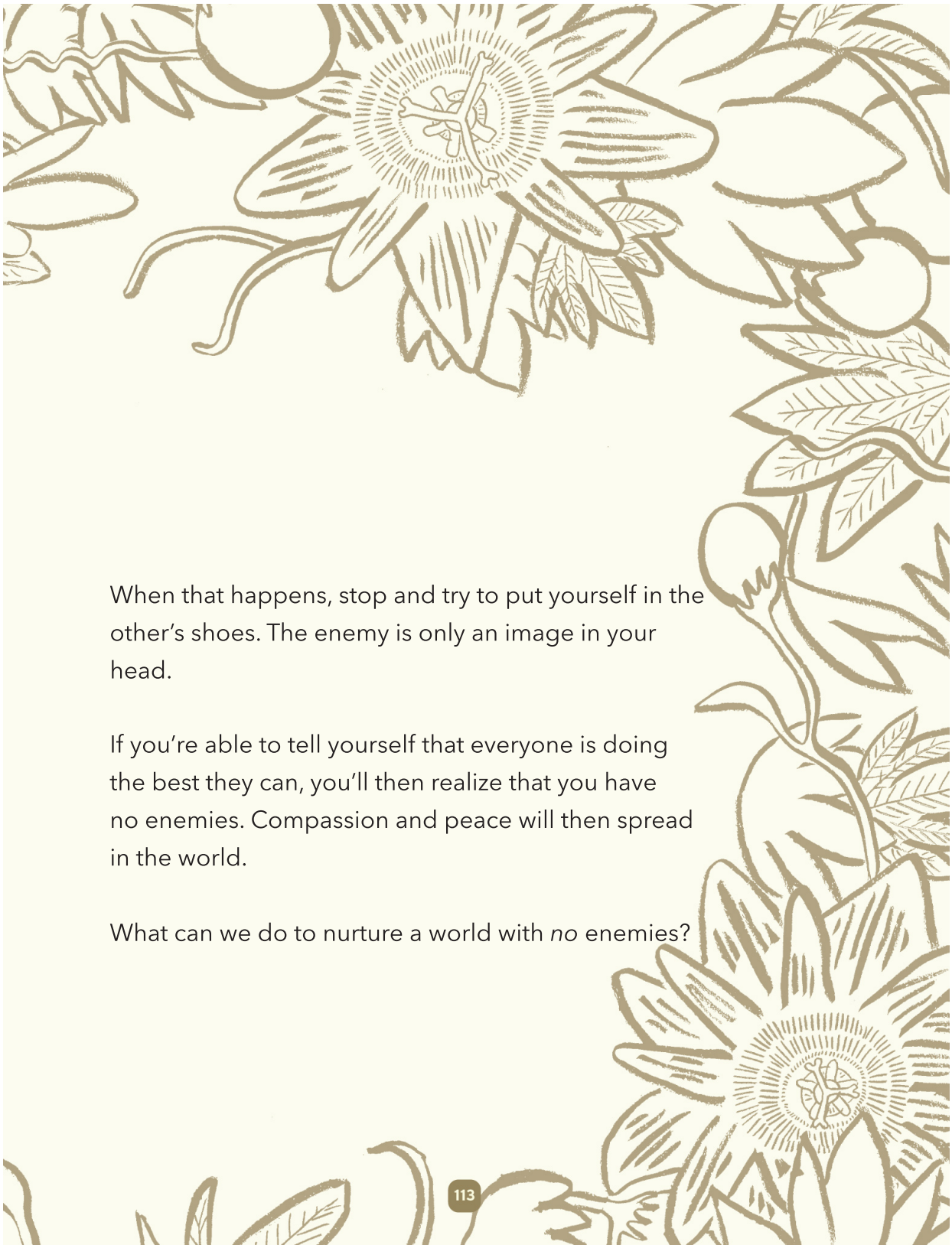
「無」敵になる

NO ENEMIES

To have no enemies, we have to adjust how we think.
We don't need to think about anyone as an enemy.

We make someone an enemy when we don't have the
capacity to understand them or when we fear them.

Often we make enemies of others who think differently
from us, people from different countries, bugs and
animals we fear, and even plants that we call weeds.



When that happens, stop and try to put yourself in the other's shoes. The enemy is only an image in your head.

If you're able to tell yourself that everyone is doing the best they can, you'll then realize that you have no enemies. Compassion and peace will then spread in the world.

What can we do to nurture a world with *no* enemies?

CAN WE COEXIST WITH THE EARTH?

LIVING SUSTAINABLY

つづけていく

セブンジェネレーション

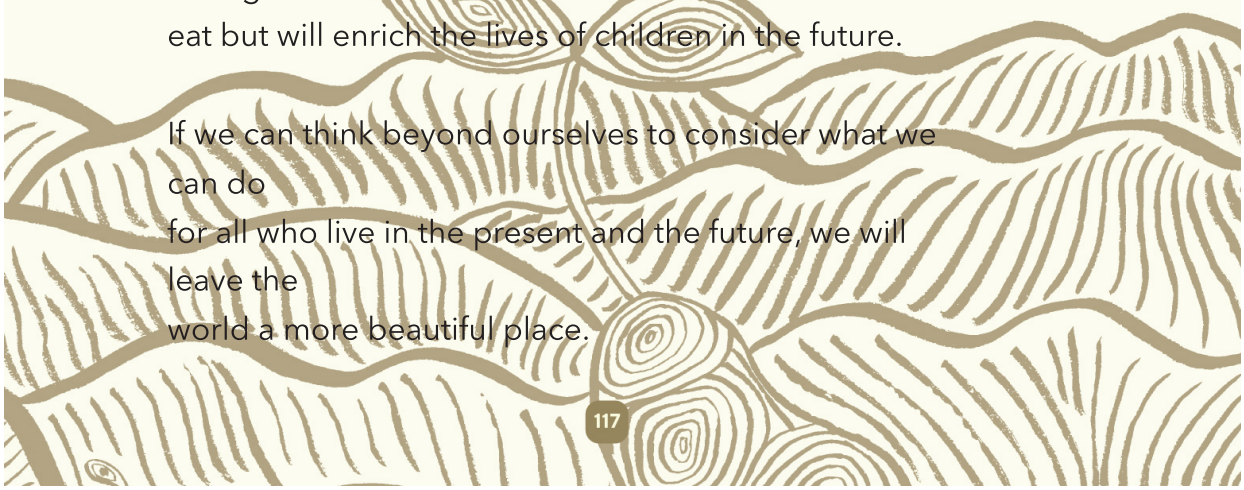
SEVEN GENERATIONS

The “seventh generation” principle is taught by the Native
Americans. Whatever we do, let us think about how it will
affect our children seven generations into the future.

“We do not inherit the Earth from our ancestors; we borrow
it from our children.” So, when we borrow something, let’s
return it in better condition than it was before.

The seeds that you plant now will grow into a big tree one day.
It will bear delicious fruit that we may not live long enough to
eat but will enrich the lives of children in the future.

If we can think beyond ourselves to consider what we can do
for all who live in the present and the future, we will leave the
world a more beautiful place.



伝統（でんとう）を取りもどす

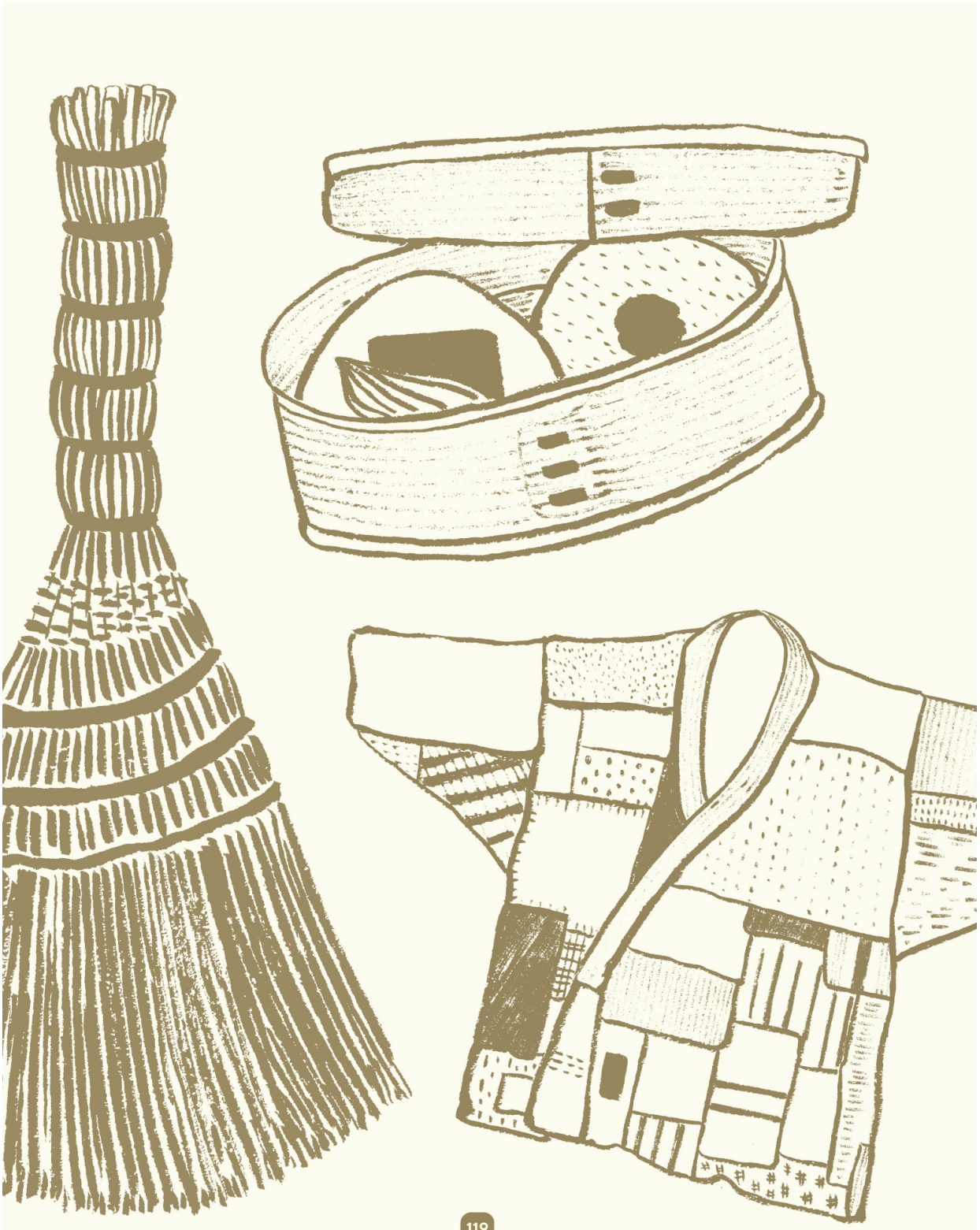
REMEMBERING TRADITIONS

Traditions are what connect us with the generations before us. They are the wisdom and ingenuity passed down from previous generations to us that are still embedded in our everyday practices.

The practice of making miso from soybeans, and pickled ume
from plums. Traditional architecture that is connected to the cycle of the seasons and culture in Japan. Festivals that originated from a particular place in the past. Based on the moon's cycles, the Japanese almanac, marking the seasonal changes, teaches us when to plant seeds and seedlings by the month, and when the best time for harvesting is.

Let's continue to practice these traditions in our everyday life so as not to lose their beautiful wisdom and skills without
even knowing their value.

Having and doing modern things are exciting too. But by reviving our vanishing traditions, we are reminded of the connection we still have with our ancestors.



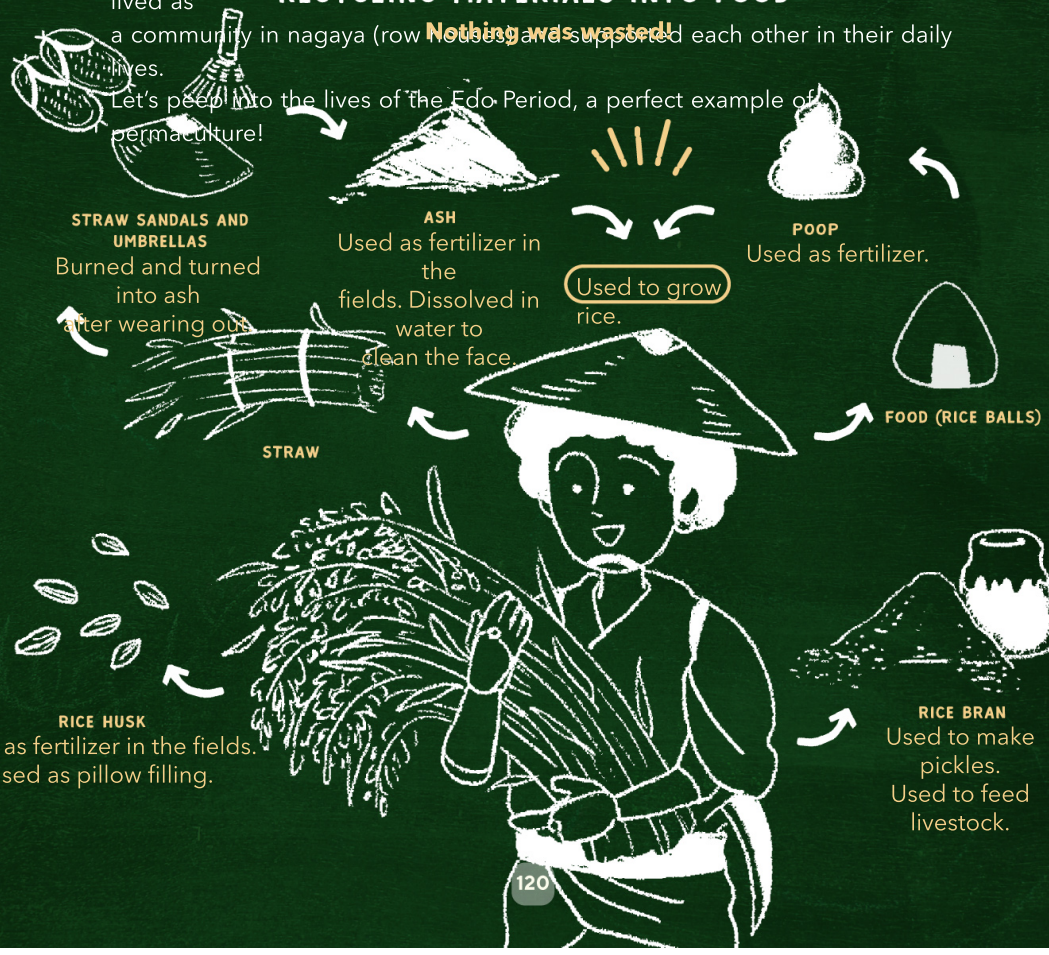
GRAINS OF WISDOM FROM EDO LIVING

Learning to live sustainably

The Edo Period had no electricity or gas. People lived in sync with the sun: awaken-
ing at sunrise, working in the daylight, and sleeping at dusk. Life was much simpler
and unhurried then. Things were reused with care, and at the very end returned to
the soil as fertilizer. Everything was treated as a valuable resource. People lived as
a community in nagaya (row houses) and supported each other in their daily lives.
Let's peep into the lives of the Edo Period, a perfect example of permaculture!

RECYCLING MATERIALS INTO FOOD

Nothing was wasted!



STRAW SANDALS AND UMBRELLAS
Burned and turned into ash after wearing out.

ASH
Used as fertilizer in the fields. Dissolved in water to clean the face.

POOP
Used as fertilizer.

Used to grow rice.

STRAW

FOOD (RICE BALLS)

RICE HUSK
Used as fertilizer in the fields.
Used as pillow filling.

RICE BRAN
Used to make pickles.
Used to feed livestock.

RECYCLING CLOTHES

Clothes were made from plants and later returned as nutrients to feed them.

COMMUNAL LIVING

People supported each other and enjoyed communal life.

NAGAYA (ROW HOUSES)
Thin walls that sound can travel through to prevent crime.
TOILET
Human poop was used as fertilizer in the fields or sold to farmers.
Neighbors interacted with each other around the public well. They would chat while drawing water for household chores like cooking and doing the laundry.
ASH BUYER
Collected ash from household stoves and sold it as fertilizer.
WELL
DOING THE LAUNDRY
COMPOST

ごみを出さない くらし

WHAT IS ZERO WASTE?

There is no waste in nature. Humans invented waste! And we
continue to fill the world with it.

Even as we repeat, “Oh, dear, we’re producing too much waste,”
the amount continues to increase. Waste includes plastic, electronics, and radioactive materials. We say we have a big
crisis, but we are turning our eyes away from it, and passing it on
to future generations. Why is this happening? How can we live a
zero-waste life just like other living beings?

People in the Edo Period lived a life with almost no waste. There

ACTIVITY

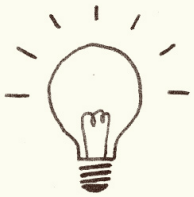
ZERO WASTE CHALLENGE!

Let's investigate how much trash we produce in our daily lives.

All right, here's a challenge for you! Can you live without producing any waste for
a week? In the first place, don't get anything that would become waste. Repair your things and give them a new look and life. With your creativity, waste can be turned into resources.

WHAT YOU'LL NEED

mindset of not getting things that will become waste



creativity

What would it feel like to collect a day's worth of
waste and carry it in your backpack for a day?

A FAMILY IN NEW YORK WHO LIVED THE ZERO WASTE CHALLENGE FOR A YEAR

A man in New York, a big city with a huge population, started to question the lifestyle he was living and decided to go green with his family for a year. They challenged themselves not to produce waste, use cars, watch TV, and buy new things. It's challenging to put all these into practice, but why don't you start with something you can do?

"NO TO WASTE FOR A WEEK" CHALLENGE

1. FLEEING FROM PLASTIC BAGS

REDUCE
Reduce as much waste as you can.

2. DONATING USED STUFF

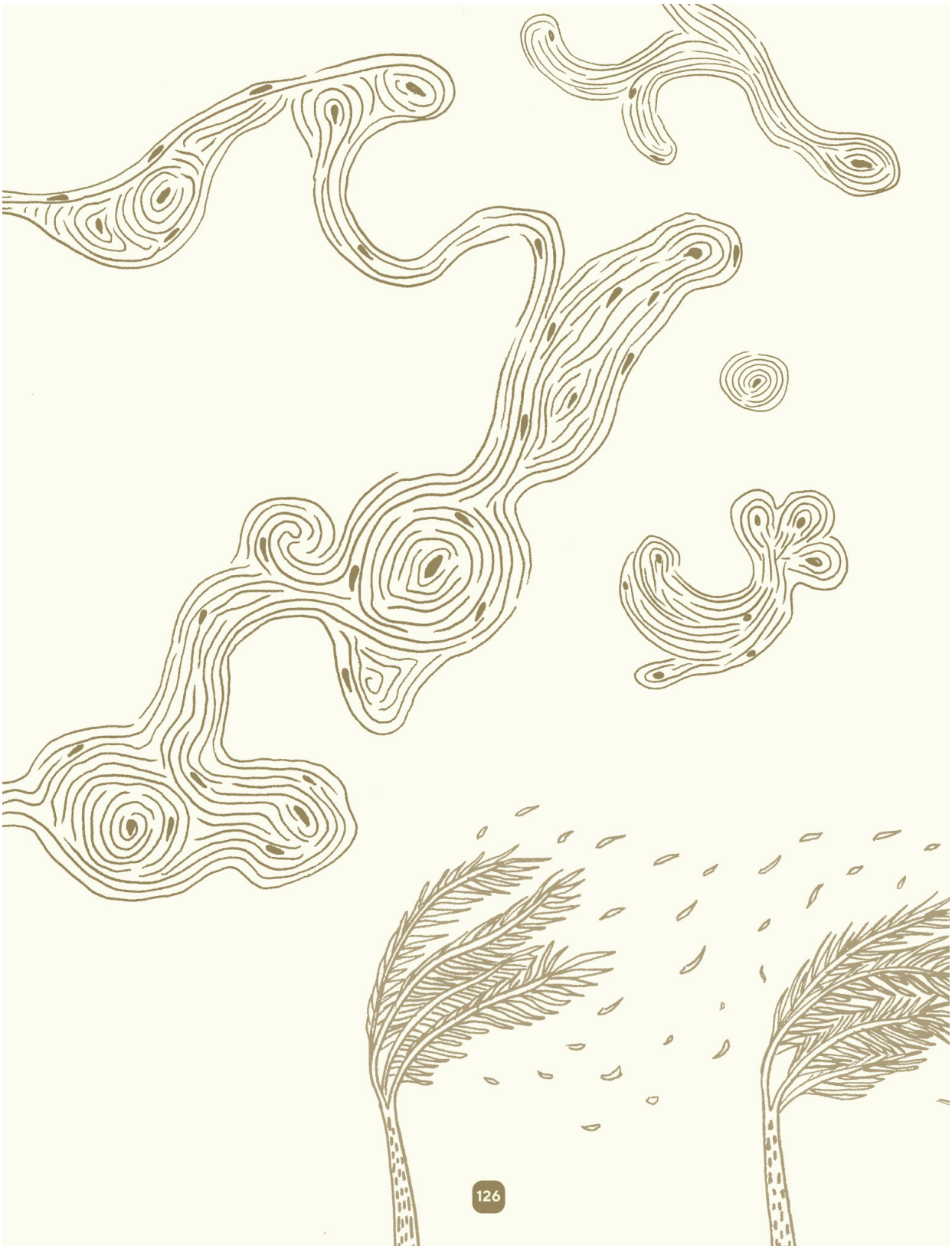
REUSE
Find a new owner for your used stuff instead of throwing it away.

3. REMAKING THINGS

UPCYCLING
Reuse old materials to create better new products
by redesigning and using processing techniques.

4. GIVING BACK TO THE EARTH

If you want to know more about giving back to the Earth, have a look at "Circle of Life" on page 20.

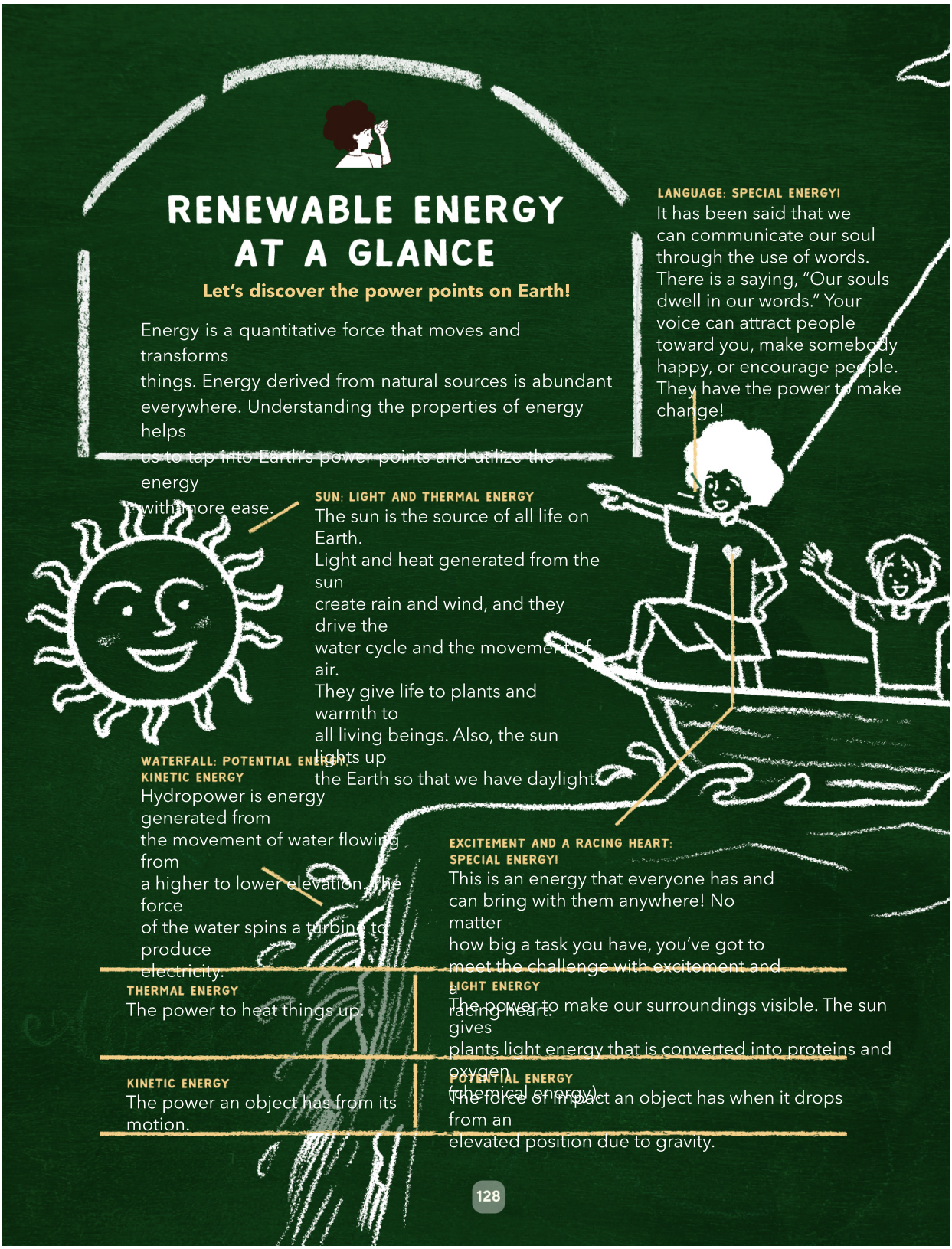


これからのエネルギー
THE FUTURE OF ENERGY

Energy is the fundamental power to set things in motion. Our human body gets energy from the food we eat.

The sun, the wind, flowing water, and our hands: energy is always
flowing around us. If you could see energy and were able to use it
at will like a magician, you'd be able to live anywhere and manage
somehow. The power to live lies in your mind and your fingertips.

If you become aware of the energy all around, you may be able to
create your own energy charger. Your words, courage, and passion
will become the energy to move the hearts of people around you.
Let's make lots of energy "power spots" like that! I bet surprising
and fun things will start popping up.



RENEWABLE ENERGY AT A GLANCE

Let's discover the power points on Earth!

Energy is a quantitative force that moves and transforms things. Energy derived from natural sources is abundant everywhere. Understanding the properties of energy helps us to tap into Earth's power points and utilize the energy with more ease.

LANGUAGE: SPECIAL ENERGY!
It has been said that we can communicate our soul through the use of words. There is a saying, "Our souls dwell in our words." Your voice can attract people toward you, make somebody happy, or encourage people. They have the power to make change!

SUN: LIGHT AND THERMAL ENERGY
The sun is the source of all life on Earth. Light and heat generated from the sun create rain and wind, and they drive the water cycle and the movement of air. They give life to plants and warmth to all living beings. Also, the sun lights up the Earth so that we have daylight!

WATERFALL: POTENTIAL ENERGY/ KINETIC ENERGY
Hydropower is energy generated from the movement of water flowing from a higher to lower elevation. The force of the water spins a turbine to produce electricity.

EXCITEMENT AND A RACING HEART: SPECIAL ENERGY!
This is an energy that everyone has and can bring with them anywhere! No matter how big a task you have, you've got to meet the challenge with excitement and a racing heart.

THERMAL ENERGY
The power to heat things up.

LIGHT ENERGY
The power to make our surroundings visible. The sun gives plants light energy that is converted into proteins and oxygen.

KINETIC ENERGY
The power an object has from its motion.

POTENTIAL ENERGY
(chemical energy)
The force of impact an object has when it drops from an elevated position due to gravity.

MOON: LIGHT ENERGY
Reflecting light from the sun, the moon expresses itself in different phases, such as the full moon and the crescent moon. Tides rise and fall because of the moon's gravity. It also affects the rhythm of many lives on Earth.

WIND: KINETIC ENERGY
Wind is the movement of air. It is caused by differences in air pressure: warm air heated by the sun rises, while cooler air sinks.

RAIN: POTENTIAL AND KINETIC ENERGY
Rainwater drops slowly through the forest into the ground. It infiltrates gradually through the soil and rocks. It gets filtered and stored as groundwater that is saturated with nutrients.

WAVES: KINETIC ENERGY
Waves are caused by the movement of wind. Research is being conducted on using wave energy, which is predictable and powerful, to generate electricity.

OCEAN TEMPERATURE: THERMAL ENERGY
Water in the deepest oceans took 1,200 years to rise to the surface. Research is being carried out on ocean thermal energy conversion (OTEC), a process that uses the temperature differences in warm surface waters and cold deep ocean waters.

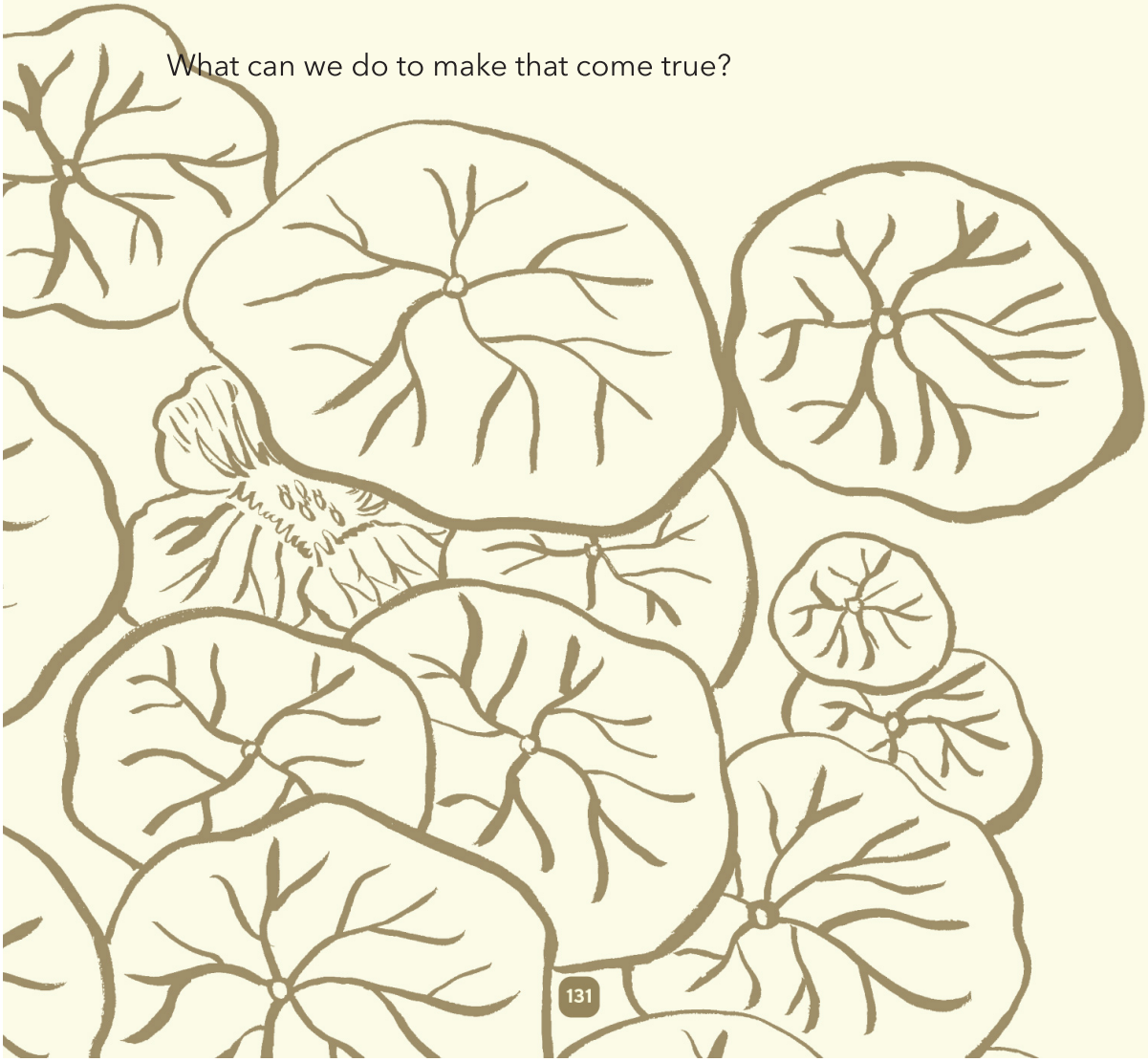
WE ARE NATURE

We've forgotten that humans are not separate from nature but are part of
nature. If we do harm to nature, we will suffer, as we're harming ourselves.

自然によりそう

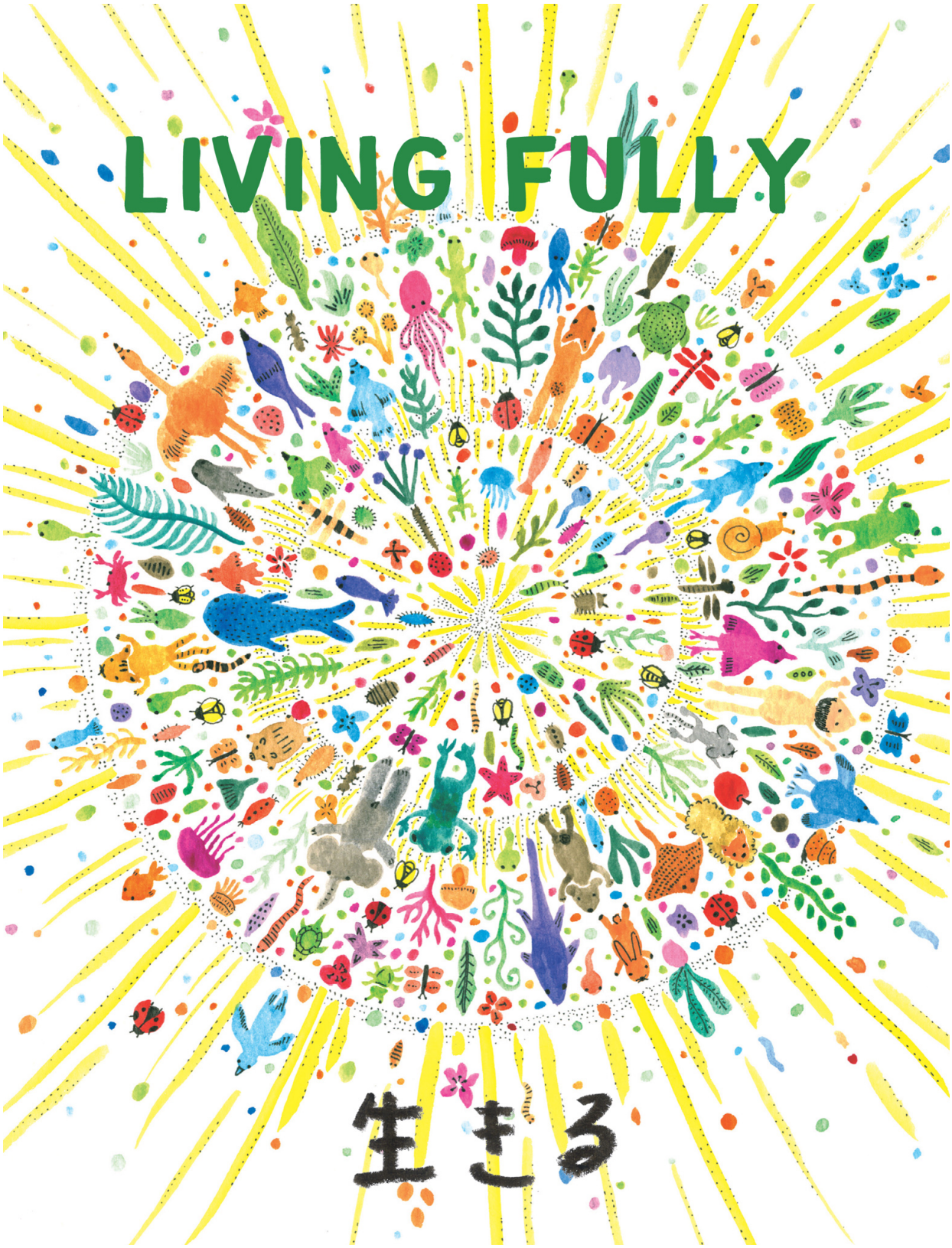
What's important for us to remember is that we are also animals that live in
nature. If we become a friend of Mother Nature, who sustains and cares for us,
the world can become a more peaceful place. Let's share our Earth, our home,
with all other living beings and live joyfully together!

What can we do to make that come true?



WHAT DOES IT MEAN TO
BE YOURSELF?

LIVING FULLY



おとなを飛びこえて

A NEW GENERATION

It is you, part of a new generation, who can exceed what adults have already tried their best to do. That doesn't mean you have to take the same path as them. We want you to challenge yourself to turn to the problems they could not solve!

Let's say, if the adults were stressed out with their busy lives, you'd figure out an unhurried way of living. If they were struggling with money, you could find a way to live in abundance even without money. As a new generation, you can find solutions to the problems adults couldn't solve.

That's why you shouldn't give up even if they or anyone else says "It's not possible." It's important that you try it out for yourself first. It may just be that they couldn't do it. Let's be someone who can change "impossible" to "It's possible"!

パーマカルチャー という選択肢（せんたくし）

THE PERMACULTURE PATH

There are many different paths in life. No matter which path you
choose, what's essential is that you feel alive walking that path.

It's important for each and every one of you to think about, to feel,
and to choose your path. And it's OK to change your path along
the way, or to take a detour for a while.

Permaculture is one of the paths. We're here with this invitation
because we'd like you to join us on our amazing permaculture adventure!

What's valued in permaculture is that we support each other as
Earth beings and live an abundant life, passing on that beautiful
world to our future children.

That's why we're able to eat the fruits of the trees planted by
the people before us. And we're planting new trees for the next

小さな小さなヒーロー

TINY LITTLE HEROES

We, and you, and many other life forms are all alive
today on this magnificent planet floating in the vast
universe. Do you know who keeps us alive every day?
It's the tiny little microorganisms that are too small for
us to see.

They make soil, rich forests, and bountiful vegetable fields. They purify water and remove pollutants on Earth.
They also keep us healthy every day, like today. Thanks to them, we have miso and soy sauce that make our food
so delicious. They also feed on dead plants and animals
that provide material for new life.

Our Earth is alive. We are alive. This is due to the microorganisms that work invisibly to create life and nurture and protect it.

They may be tiny little organisms, but they help sustain our lives.

We can be like these tiny little heroes. Each of our efforts may be small, but if everyone plays their role well,
that will lead to a big change someday.

The tiny little heroes, who are also our ancestors, are, as
usual, protecting lives today.

あとがき

AFTERWORD

How was the book? Was there anything that excited you?

We tried to pack in as many amazing things on Earth as we could
in this book. But we couldn't fit everything in here. There wasn't enough space!

So we'd like you to write a second book. Fill the book with lots of
incredible things, like this book!

We want to know about the world you're creating. And we want to
create it with you.

Before we say good-bye, here's our wish for you: Do what excites
you. We bet you'll experience a fun new world. And invite adults
to your world. Because even adults really want to be free and have
fun too. They may give excuses, like they're too busy, but don't give
up. Keep inviting them with compassion and love.

You are our best hope. Thank you for being alive.

ABOUT THIS BOOK

This book was created by the collective effort of many people, working together
like a healthy ecosystem. It started with three men from the original publisher
in Japan, Two Virgins, who attended one of my gift economy workshops, and
proposed the idea of making a children's book. From there, an all-female team
of fellow artists and activists spent over two years working on this book with me.
Toward the end, we even had an elementary school boy help edit!

Like any big project, we had many challenges and we almost gave up on the book
after one year. There were tears, laughter, discussions, and silence. But, through
giving each other support, empathy, and practicing what is in the book, we were
able to make this collective art piece.

The contents of the book are a collection of inspirational seeds we've collected
throughout our lives. And the best thing to do with such lovely seeds is to plant
them, grow them, and share them with others. We are all part of the wonderful
life-giving ecosystem on this earth. Let's make this place more wonderful for all

ABOUT THE CREATORS

Kai Sawyer

Kai Sawyer is a nonviolence activist born in Tokyo in 1983. He was raised in Niigata, Hawaii, and Osaka. While attending the University of California, Santa Cruz, he began to engage with the anti-war movement and sustainability. He also cochaired the Education for Sustainable Living Program (ESLP). As the founder of Tokyo Urban Permaculture, an experimental project based on the gift economy, he conducts workshops on permaculture, nonviolent communication, mindfulness, systems thinking, and such around the world. With his collaborators, he wants to create a world where everyone lives life to the fullest.

Azusa Fukuoka

Azusa Fukuoka met her husband in a communal house, and moved to a *satoyama* (community-based forest) in Chiba Prefecture after their child was born. They are exploring how to live a sustainable life that is fun and beautiful while implementing the practices of permaculture. She is also involved with a local community project, Small Earth, to create a community space for both locals and city dwellers.

Wakana Kawamura – Illustrator

Wakana Kawamura is an illustrator and permaculture designer, born in Hyogo Prefecture. Her fascination with American music and art brought her to the West Coast of the United States in 2008. She attended the Urban Permaculture Institute in San Francisco. After returning to Japan, she joined the Permaculture Design Lab, which focuses on making edible forests in Japan, and began to work as an illustrator. She loves invisible creatures such as fermentation bacteria and soil microbes.

Cynthia Su – Translator

Born in Singapore in 1981, Cynthia majored in Japanese Studies at the University of Melbourne, Australia. She moved to Japan in 2005, and taught English for twelve years until her daughter was born. She was introduced to permaculture in 2012 at a mindfulness retreat in Japan. She is now raising her young daughter in a natural environment surrounded by rice fields in Chiba Prefecture. As a passionate educator, she believes in providing a holistic education that cares for a child's physical, mental, emotional, and spiritual development. She wants to start a bilingual alternative school where she lives, and is now actively taking small steps toward her vision. Translating a children's book has been her long-cherished dream.

PLUM BLOSSOM BOOKS

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Parallax Press, publishes books on mindfulness for
young people and the grown-ups in their lives.

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